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SELF-CARE IN WOMEN WITH BREAST CANCER

by

Diep Ngoc Duong

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A Thesis Submitted to the Faculty of the  
COLLEGE OF NURSING

In Partial Fulfillment of the Requirements  
For the Degree of

MASTER OF SCIENCE

In the Graduate College  
THE UNIVERSITY OF ARIZONA

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SELF-CARE IN WOMEN WITH BREAST CANCER  
by  
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#### ABSTRACT

A secondary data analysis of the Self-Help Intervention Project pilot study was conducted to determine the relationships among Enabling Skills, Nursing Interventions, Symptom distress, and Self-Care in 23 women with breast cancer. This study was based upon Drem's (1985) Framework of Self-Care.

Results indicated Enabling Skills as positively related to Symptom Distress ( $r=.55$ ,  $p=.007$ ) and Self-Care ( $r=.55$ ,  $p=.007$ ). Self-Care was positively related to pattern of Symptom Distress ( $r=.36$ ,  $p=.099$ ), and negatively related to numbers of Symptom Distress ( $r=-.55$ ,  $p=.007$ ). Self-Help Class intervention was positively related to Symptom Distress ( $r=.44$ ,  $p=.037$ ).

Results of the study demonstrated women with breast cancer can benefit from nursing interventions that increase their self-control, or reduce the distress from cancer treatment's side effects. Findings emphasize the need for nurses to become more active in promoting patients' Enabling Skills and consequent increase of patients' Self-Care level.

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## DEDICATION

This thesis is dedicated to my husband John, who has inspired, encouraged, and supported me throughout my entire graduate education. Without John's support, all this would have been impossible.

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### ABSTRACT

This secondary data analysis of the Self-Help Intervention Project pilot study was conducted to determine the relationships among Enabling Skills, Nursing Interventions, Symptom distress, and Self-Care in 23 women with breast cancer. This study was based upon Orem's (1985) Framework of Self-Care.

Results indicated Enabling Skills as positively related to Symptom Distress ( $r=.55$ ,  $p=.007$ ) and Self-Care ( $r=.55$ ,  $p=.007$ ). Self-Care was positively related to pattern of Symptom Distress ( $r=.36$ ,  $p=.099$ ), and negatively related to numbers of Symptom Distress ( $r=-.55$ ,  $p=.007$ ). Self-Help Class intervention was positively related to Symptom Distress ( $r=.44$ ,  $p=.037$ ).

Results of the study demonstrated women with breast cancer can benefit from nursing interventions that increase their self-control, or reduce the distress from cancer treatment's side effects. Findings emphasize the need for nurses to become more active in promoting patients' Enabling Skills and consequent increase of patients' Self-Care level.

## CHAPTER I

### INTRODUCTION

During the past two decades the American public has become increasingly aware of "breast cancer" through public education campaigns designed to alert people to the problem, early detection, and medical procedures designed to save lives of the afflicted (Thomas, 1978). Women who are diagnosed with cancer encounter many uncertainties which influence how they adjust and adapt to treatments and everyday life experiences (Hilton, 1988; Mishel & Braden, 1987; Mishel & Sorenson, 1991). Those women who have been identified as needing medical attention or who have already endured surgery, chemotherapy, radiotherapy, hormonal therapy, or adjuvant therapy need to be able to manage their uncertainties through enhancement of their self-care skills through self-help or professional assistance.

This study was based on a secondary analysis of data from the pilot study of the Self-Help Intervention Project (SHIP) (Braden, Mishel, Longman, & Burns, 1990). The SHIP pilot study consisted of breast cancer patients within a large metropolitan area who were identified as having recently been diagnosed with breast cancer. These persons were recruited into the study, to examine enabling skills, symptom distress, self-care actions, and nursing

interventions. It is important for health professionals, who might better provide the most effective options to the patients in need, to increase the body of knowledge concerning patients with breast cancer and their manner of managing the disease, treatments, and its side effects.

### **Significance of the Problem**

Breast cancer remains a significant public health problem in the United States. In 1990, 44,300 deaths from breast cancer were reported (American Cancer Society, 1991). The American Cancer Society (ACS) estimated that, in 1992, breast cancer would account for 32% of all cancer in women, and that 181,000 new breast cancer cases would be diagnosed. Boring, Squires, and Tong (1991) estimated that during 1991, 44,500 deaths from breast cancer would occur.

Based on the current incidence rates, the ACS estimated that a woman's risk of developing breast cancer in her life time is one out of nine or 11% (ACS, 1992). According to Levy (1986), the death rate from breast cancer has not changed significantly over the past 50 years, despite the latest available medical technologies. Part of the continuing problem is that 50% of those newly diagnosed with breast cancer are already in the late stages of the disease.

Individuals with the diagnosis of breast cancer face

many uncertainties. These uncertainties include death, the possibility of disfigurement, anxiety over body image, disability, and the discomfort of the disease and the treatments (Kriss, 1981). Responses to these uncertainties are influenced by factors that create the perceived reality of cancer for the individual (Morris, Greer, & White, 1977).

Anxiety and depression have been described as the most common reactions experienced by persons with cancer (Clark, 1990). Individuals experiencing breast cancer must find ways to handle their problems so that they are not overcome by anxiety and depression which negatively influence their physical and mental recovery.

Patients bring to the cancer experience their previous problem solving strategies that have been effective or ineffective in managing anxiety and depression. Miller (1983) suggested that effective strategies include:

- 1) information seeking, 2) participation in religious activities, 3) distraction, 4) expression of emotion and feeling, 5) positive thinking, 6) conservation of energy, 7) maintenance of independence, 8) maintenance of control, and 9) goal setting.

Nurses seek to provide the path by which patients may proceed toward the goal of effective coping skills in the control of anxiety and depression so that they can direct personal actions toward decreasing and neutralizing breast cancer's negative effects on their

lives.

In the past, medicine searched for predisposed behaviors to ineffective adjustment to illnesses (Fallowfield, 1990); however, little effort was made in the area of health promoting behaviors and effective health behaviors. One fruitful area was the Seligman's (1975) model of "learned helplessness" which was related to the environmental contingencies and cognitive styles that lead to illnesses. The results of learned helplessness was the withdrawing from manageable obstacles and succumbing to everyday problems (Braden, 1990).

Conversely, Rosenbaum (1983) proposed that with a repertoire of learned behaviors and skills, the individual can self-direct events, such as emotions, pain, and cognitions, that interrupt the smooth delivery of problem solving behaviors. Rosenbaum (1990) was interested in behavioral skills enabling an individual to 'snap out' of a situation, i.e., not lose involvement in meeting desired goals, despite situational and cognitive variables that interrupt goal directed behavior.

### **Statement of the Problem**

Health care professionals have increasingly recognized and valued self-help programs (Braden, 1990; David, Roul, &



Kuruvilla, 1988). Braden et al. (1990) conducted a Self-Help Intervention Project (SHIP) study to examine (1) educational self-help skill enhancement classes for patients with breast cancer as self-help intervention, and (2) nurse case-manager education and support of patients with breast cancer as self-help intervention.

From the SHIP study, a secondary analysis of the data was performed. The purpose of this secondary study was to increase the body of knowledge concerning self-care practices in women with breast cancer in order to provide a model for nursing care in assisting persons with breast cancer. Using data derived from breast cancer patients, it is possible for nurses to understand the dynamics involved in creating patients' optimal opportunities and choices. These enable patients to better care for themselves during and after cancer treatment programs. Thus, selection of appropriate interventions toward breast cancer may result in more effective outcomes from self-care, as well as more efficient use of physical and personnel resources.

### **Purpose of the Study**

The purpose of this study was to determine the relationship, if any, among enabling skills, nursing interventions, symptom distress, and self-care in women with

breast cancer. A description of the impact of enabling skills and symptom distress upon self-care can facilitate planning and implementing nursing interventions which promote enabling skills, minimize symptom distress, and ultimately enhance self-care in women with breast cancer.

### **Research Questions**

1. What is the relationship between **enabling skills** and **self-care**?
2. What is the relationship between **enabling skills** and each of the three **nursing interventions** (Independent Study, Self-Help Class, and Nurse Case Management)?
3. What is the relationship between **enabling skills** and **symptom distress**?
4. What is the relationship between **symptom distress** and each of the three **nursing interventions** (Independent Study, Self-Help Class, and Nurse Case Management)?
5. What is the relationship between **symptom distress** and **self-care**?

### **Definition of Terms**

The following definitions are presented to increase understanding of terms used in the context of this study:

Breast Cancer. A disease which is characterized by uncontrolled cell growth and spread of abnormal cells in one or both breasts (American Cancer Society, 1991).

Enabling Skills. Behaviors of women with breast cancer which result in eliminating or reducing disruptive effects from breast cancer (Rosenbaum, 1983; 1990).

Nursing Interventions:

1) Independent Study Materials. A nurse-developed packet of information, describing breast cancer concerns, designed for patient use without the presence of the nurse (Braden et al., 1990).

2) Self-Help Class. Nurse-developed materials regarding breast cancer concerns included in a course to be completed by breast cancer women under the direction of a nurse (Braden et al., 1990).

3) Nurse Case Management. A nurse-developed phone interaction program, designed to manage patients' uncertainty regarding breast cancer concerns (Braden et al., 1990).

Symptom Distress. The physical and psychological symptoms which can be credited to breast cancer, the treatments, and/or the side effects from the treatments (Braden et al., 1990).

Self-Care. Actions taken by women with breast cancer, directed toward self or to the environment to control one's own functioning in the interest of life and well-being

(Orem, 1985).

### **Summary**

The problem of breast cancer in women is immense, with regard to numbers of persons experiencing this illness. Like other chronic illnesses, breast cancer is a stressful event in the life of newly diagnosed patients or those currently undergoing cancer treatment. More effective strategies can be learned and enhanced by patients to deal with this stressful event. One role of nursing is that of enhancing patients' ability to deal with the emotional and physical problems associated with breast cancer. In order for nursing interventions to be carried out effectively, it is necessary to explore various approaches to assisting the patient. This study attempted to increase the knowledge on the subject of nursing intervention strategies which will enable patients with breast cancer through guided education and behavioral enhancement.

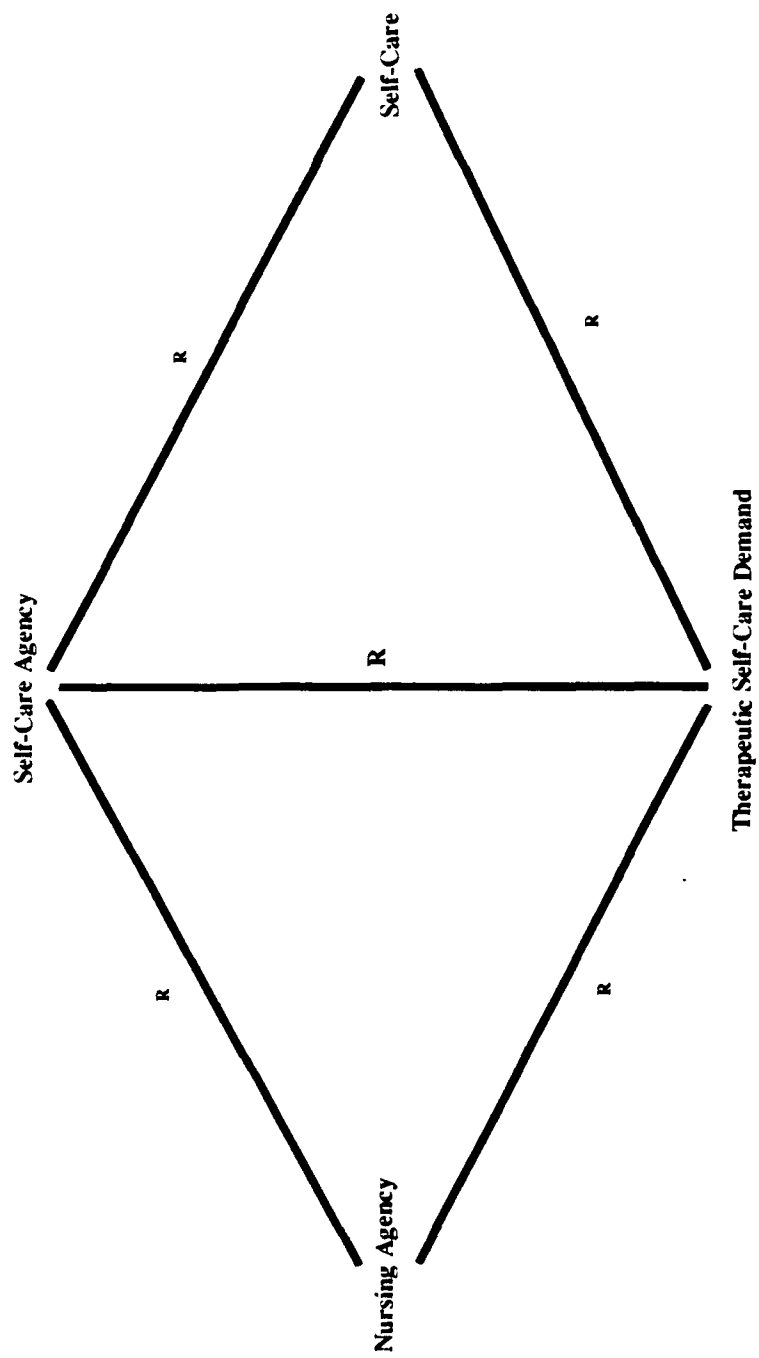
## **CHAPTER II**

### **CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW**

The purpose of this chapter is to present the conceptual framework which underlies this study's secondary data analysis obtained from the Self-Help Intervention Project (SHIP) pilot study data of women with breast cancer (Braden et al., 1990). Included in this chapter are the constructs of Orem's (1985) Self-Care Framework, and a related review of the literature concerning represented concepts. Represented concepts in this study include: enabling skills, nursing interventions, symptom distress, and self-care in women with breast cancer. Background information and a related literature review on breast cancer are provided in this chapter.

### **CONCEPTUAL FRAMEWORK AND REVIEW OF LITERATURE**

The framework for examining self-care in women with diagnosis of breast cancer, was built upon Orem's (1985) Self-Care Framework in nursing. Major constructs in Orem's framework were self-care agency, nursing agency, therapeutic self-care demand, and self-care (Figure 1).



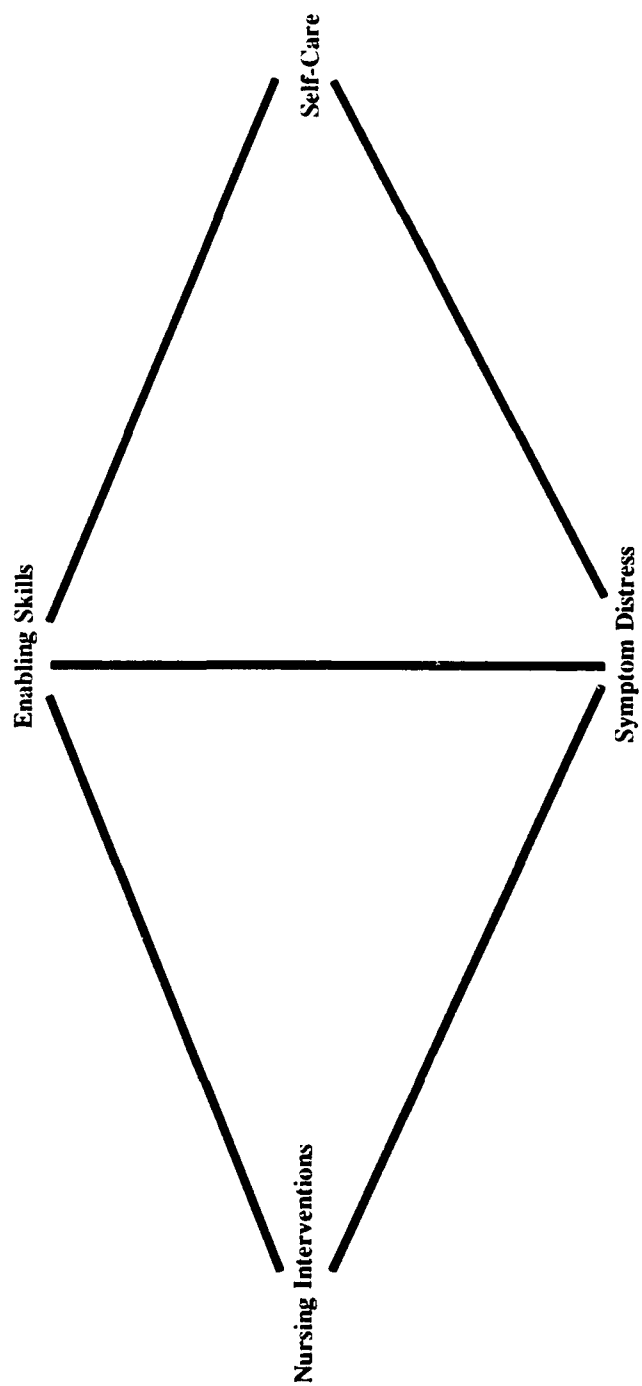
R = relationship

**Figure 1. Conceptual Framework for Self-Care in Women with Breast Cancer. Construct Level.**

### **Self-Care Agency**

Self-Care Agency, the first construct, was defined by Orem (1985) as, "the complex acquired ability to meet one's continuing requirements for care that regulates life processes, maintains or promotes integrity of human structure and functioning and human development, and promotes well-being" (p. 105). Orem further stated the individual's abilities are influenced by various enabling elements such as: 1) ability to control the use of available physical energy; 2) ability to make decisions; 3) ability to obtain, retain, and act on obtained knowledge; 4) ability to focus attention to self; and 5) availability of a personal repertoire of cognitive, perceptual, and communicative skills.

Of the above, this study focused on availability of personal repertoire of cognitive, perceptual, and communicative skills, which are called "enabling skills" (Figure 2). The concept of enabling skills refers to self-directed actions people take under stressful circumstances and includes the following areas: 1) use of cognitions and self-instructions in coping with emotional and physiological reactions; 2) employing problem-solving strategies such as evaluating alternatives, planning, and anticipating consequences; 3) the individual's ability to delay immediate



**Figure 2. Conceptual Framework for Self-Care in Women with Breast Cancer. Conceptual Level.**



gratification; and 4) the individual's ability in self-regulating own internal events (Rosenbaum, 1980).

### **Review of Literature on Enabling Skills**

#### **Enabling Skills: Delay Gratification in Chronic Illness.**

Rosenbaum and Smira (1986) studied 53 persons who suffered from end-stage renal disease. Rosenbaum's (1980) Self-Control Schedule (SCS) was used as a measure of enabling skills. Results indicated that compliance was strongly associated with enabling skills. There also was a strong association between behavioral ability to delay gratification that is, take in fluids and enabling skills ( $r = -.68$ ,  $p < .001$ ).

Compliance with therapy is an essential part in successful cancer treatment. Many cancer treatments (i.e., chemotherapy and radiation therapy) produce undesired effects (i.e., nausea, vomiting, and weakness) which may interfere with patients' compliance rates. Individuals with high enabling skills may be more able to comply with the demands of health related situations (Rosenbaum, 1980; Rosenbaum & Ben-Ari, 1985).

#### **Enabling Skills: Self-Regulation and Self-Instruction in Patients with Breast Cancer.**

Hilton (1988) explored uncertainty and strategies used

in dealing with uncertainty in women with breast cancer. Sixteen women with breast cancer were interviewed using a phenomenological approach. Interrater reliability for the emerging themes in this study resulted in an 85% agreement rate. Uncertainty was described as a feeling of vagueness, inability to foretell the future, insecure feelings, and being in doubt.

"Coping" strategies used by the women in handling uncertainty included: 1) "mobilizing resources" (i.e., seeking information to increase understanding and make choices); 2) "focusing on the positive" (i.e., believing in a positive attitude, focusing on the future); and 3) "modifying the situation" (i.e., doing things to decrease the chances of recurrence such as early detection of recurrence, changes in diet, and complying with therapy or handling problems as they arose). Most of the subjects thought that they had control in early detection of any further cancer development. This indicates that self-control was important.

#### Enabling Skills, Uncertainty, and Self-Help in Patients with Chronic Illness.

Braden (1990) using a sample of 396 subjects, with diagnoses of arthritis and arthritis related conditions, generated a Self-Help Model depicting learned response to chronic illness experience. The Self-Help Model included

variables such as severity of illness, dependency, uncertainty, enabling skills, self-help, and life quality. The specified relationships among variables supported in model tests were: 1) dependency and uncertainty are inversely related to enabling skills, 2) enabling skills have a positive relationship with self-help, and 3) dependency and uncertainty are inversely related to self-help. The mediating role of enabling skills has been supported in a second study with persons having diagnosis of systemic lupus erythematosus (Braden, 1991).

### **Nursing Agency**

Nursing Agency, the second construct, was described by Orem (1985) as the capability for actions which are activated by nurses. Nurses' actions are performed after determination of needs and self-care deficits are identified. Orem asserted that human limitations for self-care associated with health conditions contribute to the requirement for nursing. The focus of nursing is upon the individual's self-care actions. Nursing is a helping service that involves: 1) acting, and doing for others; 2) guiding, and supporting others; 3) providing a developmental environment to others, and 4) teaching others.

Nursing agency was conceptually represented in this

study by the use of various nursing interventions. These interventions were aimed at facilitating and promoting the ability of women with breast cancer to deal with the disease, its treatment, and side effects (Figure 2).

The nursing interventions in this study were Independent Study (IS), Self-Help Class (SHC), and Nurse Case-Manager (NCM). Independent Study (IS) is defined as a nurse-developed packet of information describing breast cancer concerns, and was designed for patient use without the presence of a nurse. A nursing intervention such as Independent Study can be considered as a nursing service of guiding patients, as explained by Orem (1985).

Self-Help Class (SHC) is defined as nurse-developed materials regarding breast cancer concerns, and was designed as a course to be completed by groups of women under the direction of a nurse. Nursing intervention, such as the Self-Help Class, can be viewed as the nursing service of teaching and supporting patients, as delineated by Orem (1985).

Nurse Case Management (NCM) is defined as nurse-developed phone interaction, designed to manage women's uncertainty regarding breast cancer concerns. A nursing intervention, such as Nurse Case Management, can be regarded as the nursing service of providing a developmental environment for patients, as defined by Orem (1985). A

review of literature on nursing interventions such as self-help classes and nurse case management is presented in the following section.

### **Review of Literature on Nursing Interventions**

#### **Self-Help Class.**

Lorig, Lubeck, Kraines, Seleznick, and Holman (1985) examined the outcomes of self-help education in patients with arthritis (N=190). They reported that after participation in an Arthritis Self-Management Course (ASMC), patients demonstrated increased knowledge about arthritis, and adopted newly taught behaviors. Moreover, these positive effects of self-help education persisted without reinforcement for as long as 20 months. Subjects' knowledge score at 20 months ( $\bar{x}=1.08$ , S.D.=2.04) remained significant as compared to subjects' knowledge score after the participation in the Arthritis Self-Management Course ( $\bar{x}=1.25$ , S.D.=1.92).

In a later study, Lorig, Seleznick, Lubeck, Ung, Chastain, and Holman (1989) evaluated a self-management course and consequent behavior change in individuals with arthritis (N=707). The assumption was that intervention (i.e., Arthritis Self Management Course to increase patient's knowledge) leads to behavior change (i.e.,

increased exercise, walking, or use of relaxation), which consequently leads to positive health outcomes (i.e., less pain). Although the course produced changes in behavior and decreased perceived pain ( $R^2=.15$ ), the changes in behavior did not seem to be clearly associated with changes in pain ( $R^2=.01$ ). They concluded that there was a probability of other mediating psychological factors.

#### Nurse Case Management Intervention.

Gortner, Leavitt, Rankin, Price, Gilliss, and Shinn (1985) explored the efficacy of monitoring, by phone, patients' recovery after cardiac surgery. Sixty seven patients and their spouses participated in the study. The investigators reported that there was a positive relationship between support provided by nurses through telephone contact after the patient was discharged from the hospital, and the patient's recovery. Gortner and coworkers indicated that use of feedback support lessened perceived symptoms, increased self-care, and increased patients' compliance.

Norcross-Weintraub and Hagopian (1990) examined the effect of nursing consultation on self-care in subjects ( $N=56$ ) with various types of cancer who were undergoing radiation therapy. Subjects were randomly assigned to one

of three groups:

- 1) Control group - patients received usual care offered in the radiology department, with no standard patient education;
- 2) Health education group - patients received usual care and weekly health information from a registered nurse, on subjects such as nutrition, stress reduction, exercise, and relaxation; and
- 3) Experimental group - patients received usual care and weekly individualized nursing consultation on severity of side effects, and self-care strategies. The investigators related that the number of self-care strategies used did not differ among groups during the course of treatment ( $\bar{X}_C=26$ ;  $\bar{X}_H=28$ ;  $\bar{X}_E=29$ ). Self-care strategies increased for all groups as the severity of side effects increased. The more severe the subjects' side effects, the more helpful they perceived their self-care strategies.

### **Therapeutic Self-Care Demand**

The third construct, Therapeutic Self-Care Demand, was described by Orem as measures of meeting required care in satisfying the existing requisites (universal self-care requisites, developmental self-care requisites, or health-

deviation self-care requisites) for life maintenance and health promotion (Orem, 1985). Therapeutic self-care demand refers to all self-care actions that are needed to meet self-care requisites.

More specifically, therapeutic self-care demand is the action demand on the individual to satisfy some complex health-deviation type self-care requisites such as breast cancer. Breast cancer, its treatments, and the side-effects from the treatments, create symptom distress which places a demand on the individual to perform some type of self-care action.

Fatigue has been reported to be the most distressing of symptoms (45%, n=96) (King, Nail, Kreamer, Strohl, & Johnson, 1985) and can result in significant self-care demand (19.5%, n=30) (Kubricht, 1984). Therapeutic self-care demand was represented conceptually in this study by the characteristics of symptom distress experienced by women receiving treatment for breast cancer (Figure 2).

### **Review of Literature on Symptom Distress**

Symptom distress was used to describe the physical and psychological effects associated with breast cancer, its treatment, and the treatment's side effects. Patients with cancer who receive adjuvant therapy often experience harsh



side effects that may influence their ability to perform normal activities of daily living.

McCorkle and Young (1978) developed a symptom distress scale which has been widely used in studying symptom distress in various types of cancer patients. The symptoms included in this scale were nausea, mood, appetite, insomnia, pain, mobility, fatigue, bowel pattern, concentration, and appearance. This work has been recognized as the framework for studying symptom distress in patients with various types of cancer.

McCorkle and Quint-Benoliel (1983) studied symptom distress, mood disturbance, and current concerns, in two groups of patients: lung cancer (N=67), and myocardial infarction (N=71). The investigators reported that individuals with newly diagnosed lung cancer experienced higher symptom distress than individuals with a diagnosis of myocardial infarction. McCorkle and Quint-Benoliel postulated that the higher level of mood disturbances in individuals with lung cancer may be related to their increased level of symptom distress. A modified version of McCorkle and Young's (1978) symptom distress scale was used.

Holmes (1989) explored the symptom distress pattern in cancer subjects (N=120). The author related that 73% of subjects reported significant distress from at least one symptom. Fifty-five percent of subjects reported two or

more symptoms, and 28% reported at least five symptoms. A modified version of McCorkle and Young's (1978) symptom distress scale was used.

Christman (1990) studied the effects of uncertainty, hope, preference for control, and symptom severity on psychosocial adjustment in patients with cancer who were beginning radiation therapy. The majority of patients (86%,  $N=55$ ) were within three months of diagnosis. The author reported the following findings: 1) patients who perceived their illness as vague or unclear and felt less hopeful revealed more psychosocial adjustment problems ( $r=.39$ ,  $p<.02$ ); 2) there was little evidence to indicate that patients had desire for control, and 3) symptom severity was a significant predictor of psychosocial adjustment at treatment completion ( $r=.31$ ,  $p<.05$ ). These findings clearly indicated that nursing actions such as helping patients to correctly interpret symptoms, and enabling patients to participate in symptom alleviation (self-help) may have an impact on their adjustment and reduction of uncertainty. Symptom severity was measured using a modified version of the Symptom Distress Scale (McCorkle, & Young, 1978).

### **Self-Care**

The last construct, Self-Care, was described by Orem as

the actions taken by an individual, directed to self or to the environment, to control his/her own functioning in the interest of life and well-being (Orem, 1985). Self-care is necessary for maintenance of health. According to Orem, self-care is performed in relation to three self-care requisites. First, universal self-care requisites are associated with life processes and maintenance of human function. Second, developmental self-care requisites are associated with human developmental processes and conditions that accompany various stages of the life cycle. Lastly, health deviation self-care requisites are associated with human functional and structural deviations from defects, disabilities, diseases, and their effects.

Self-care at the conceptual level in this study was defined as the type and quantity of direct action taken by the individual to prevent or to alleviate side effects and preventable complications of breast cancer treatment (health deviation) (Figure 2).

### **Review of Literature on Self-Care**

Self-care means that individuals take actions to care for themselves or change environmental conditions to enhance their own health through prevention, elimination, or alleviation of perceived problems (Orem, 1985). Self-care

depends on the knowledge and skills the individual possesses.

Since 1981, Dodd has been known for her studies of self-care in cancer patients. In 1981, Dodd and Mood conducted two studies. In their first study, they wanted to determine the amount of information retained from the informed consent procedure for chemotherapy in subjects with cancer who were receiving chemotherapy (N=30). Only 30% (n=9) of subjects correctly named the potential side effects. In addition, only 33% (n=10) of the subjects recognized infection as a potential side effect, and none (0%) of the subjects identified bleeding as a potential problem. In general, the subjects in the first study recalled little of the information given to them.

The purpose of the second study was to determine how much information was retained by the subjects, after information was provided by the physician in an informed consent procedure followed by information reinforcement by a nurse (N=24). Dodd reported that the information group recalled significantly more of their drugs' possible side-effects ( $t(22)=3.21$ ,  $p<.01$ ), of their lethal side-effects ( $t(22)=4.75$ ,  $p<.01$ ), and their purposes for receiving chemotherapy ( $t(22)=2.22$ ,  $p<.05$ ).

Dodd (1982, 1983) studied self-care for side effects in individuals (N=48) who were receiving chemotherapy treatment

for various types of cancer. Dodd asserted that self-care behaviors can be learned. Dodd related that patients reported an average of 7.69 side effects. Individuals who received information about appropriate actions for side effects performed more self-care behaviors than those who received no information ( $F(1,44)=7.60$ ,  $p<.01$ ). Later, during treatment, the investigator reported that there was a delay in initiation of self-care behaviors. Dodd (1982) reported that, most frequently, patients initiated self-care for nausea and vomiting. Self-care for potentially lethal side effects such as bleeding and infection was not reported. More frequently, patients reported themselves as a source of ideas.

In 1984, Dodd studied self-care behaviors in patients with cancer who were receiving chemotherapy ( $N=48$ ). Dodd reported the following: 1) patients who had received chemotherapy drug information had significantly increased knowledge ( $F(1,44)=12.89$ ,  $p<.01$ ) of drug names and side effects; and 2) self-care behaviors were significantly higher ( $F(1,44)=7.60$ ,  $p<.01$ ) in those who received Side-Effect Management Techniques (SEMT) information versus those who did not. Increased self-care was related to knowing what to do when needed. Dodd suggested that self-care behaviors can be learned.

Dodd (1987) explored the effect of proactive information

on self-care behavior in individuals (N=60) who were undergoing radiation therapy. The Self-Care Behavior log was self-administered by patients to record any action they took to prevent or alleviate the experienced side effects. Significant difference in performance of self-care was not found between patient populations who received information versus those who did not ( $t(58)=1.3$ ,  $p=.2$ ). Proactive information failed to make a significant difference in preventive self-care behavior within this group. The author stated that patients were not inclined toward preventive activity and await the advent of side effects before initiating self-care. The limitations of this study were the inclusion of various types of cancer, with only a small convenience sample.

Dodd (1988) studied self-care in a nonrandomized sample (N=30) of patients with newly diagnosed breast cancer. She reported that patients did not delay the initiation of self-care behaviors as found in earlier studies (Dodd, 1983, 1984). In addition, delay in initiation of self-care was significantly correlated with the severity of side effects ( $r=.5$ ,  $p<.02$ ). The patients also demonstrated high scores on internal locus-of-control, perhaps due to the patients' report of self as the most important source of information concerning self-care.

The dynamics of these four major constructs are considered as being continuously interactive, wherein the energy and flow of the system components are determined by alterations in the individual's self-care abilities (Figure 1). Women with breast cancer can benefit from nursing interventions (nursing agency) because they are subject to health-related distress from side effects of cancer treatment (therapeutic self-care demand) that result in ineffective self-care actions (self-care) (Orem, 1985). When self-care agency is not sufficient to meet the therapeutic self-care demand, a deficit in self-care results. Nursing interventions (nursing agency) such as: guiding and supporting (independent study), teaching (self-help class), and providing developmental environment (nurse case management) should promote and enhance individuals' abilities (self-care agency) to care for self (self-care) (Orem, 1985). Therefore, self-care actions taken to care for self were the focus of this study.

The associations among the concepts represented in this study, as delineated in Figure 2, are factors that interact to influence self-care. Accordingly, **Nursing Agency** (nursing interventions: i.e., Independent Study, Self-Help Class, and Nurse Case Management) and **Therapeutic Self-Care Demand** (symptom distress) interact with **Self-Care Agency** (patient's ability: i.e., enabling skills) relative to **Self-**

**Care.**

Orem (1985) proposed the following relationships among the concepts in Self-Care Framework: 1) Self-Care is related to Self-Care Agency, 2) Nursing Agency related to Self-Care Agency and Therapeutic Self-Care Demand, and 3) Therapeutic Self-Care Demand is related to Self-Care. Orem stated that self-care agency are influenced by the individuals enabling power. In addition, when self-care agency is not sufficient to meet the therapeutic self-care demand then the nursing agency is in order.

**Background Information and Review Literature on  
Breast Cancer**

Cancer is defined as a group of diseases which are characterized by uncontrolled localized abnormal cell growth or by spread of abnormal cells through the body (American Cancer Society, 1991). If the spread of those abnormal cells is not interrupted, death will ensue. As deadly as cancer has proven to be, many cancers can be cured if detected and treated promptly.

Breast cancer continues to be a significant disease in the United States. Reported breast cancer incidence has increased about three percent per year since 1980.

The American Cancer Society (1991) estimated that one



in every nine women will develop breast cancer in 1991. The established risk factors for developing breast cancer include age, personal and family history, never having any children or first childbirth after age 35 (American Cancer Society, 1991; Goodman & Harte, 1990; Kelsey & Gammon, 1991).

In spite of new technological developments in health care, 90% of breast cancers are accidentally self-detected (Goodman & Harte, 1990). This has led to a nationwide emphasis on breast self-examination (BSE) as an important component of a breast cancer screening program, a self-care behavior, recommended by the American Cancer Society (Nielsen, 1991). Women who follow a recommended, on-going, self-surveillance program for early detection are providing themselves with the best tool available in the fight against breast cancer.

Most breast lumps are not cancer. Eight of 10 lumps that are biopsied for tissue study are found to be benign. Indications of cancerous (malignant) breast lumps include: 1) diffused boundaries, fixed palpable or nonpalpable mass; and 2) serous or bloody nipple discharge. Local heat, swelling, and redness may be related to normal inflammation processes; however, those conditions can also be signs of inflammatory breast cancer. Nipple retraction or elevation, skin dimpling or retraction, and pain may indicate advanced

breast cancer (Dow, 1991; Goodman & Harte, 1990). Positive diagnosis of breast cancer can only be made by study of the breast tissue following a surgical biopsy procedure.

Treatment alternatives depend upon the type of cancer, stage of cancer, individual's physiological condition, age, risk-factor profile, and individual preferences. Treatment alternatives include: surgeries, chemotherapy, radiation therapy, hormonal therapy, or a combination of therapies (Kalinowski, 1991; Vogel, 1991). With treatment, the following five-year current survival rates have been reported:

- 1) 91% efficacy rate in localized breast cancer.
- 2) nearly 100% survival rate in patients who have non-invasive cancer at time of detection.
- 3) 18 % survival rate in patients who have distant metastasis at time of detection.

#### Breast Cancer and Its Impact on Psychosocial Element of Well-Being.

Upon discovery of a breast lump and being informed of a breast cancer diagnosis, women experience shock, disbelief, denial, withdrawal, and may avoid care (Thomas, 1978). On the other hand, they may feel motivated to learn as much as they can about breast cancer, in addition to seeking nonconfirmation or confirmation of the diagnosis (Loveys &

Klaich, 1991; Thomas, 1978). At the same time, they are anxious, uncertain, and/or fearful of the outcome. They also attempt to maintain some control over what is happening to them (Loveys, & Klaich, 1991).

#### Breast Cancer and Its Impact on Life Changes.

Breast cancer patients' perceptions, concerning the impact on their lives from the disease and the medical treatments for the disease, vary according to the individual. Simmons (1984) found a significant ( $p=.001$ ) relationship between past loss and stress, versus perceived present loss and stress in the sample under study ( $N=29$ ). Pearson Product Moment Correlation Coefficient was used to determine the relationship; however, the author failed to report the  $r$  level. Simmons explored the impact of breast cancer on life change losses. Simmons reported the following: 1) 35% of subjects perceived physical energy, hair, nausea, physical attractiveness, and weight problems associated with the disease as life change losses, 2) 14% associated loss and stress with marital, employment, parental, and social roles, and 3) most people (80 %) indicated that changes had not occurred in their sex lives.

### Summary

Breast cancer in women is a major health problem in America (American Cancer Society, 1991). In fighting breast cancer, nurses need to inform patients of early detection methods. When the disease has manifested itself, nurses can provide interventions that enable patients to deal with their disease. It is important to understand patient needs for nursing interventions which aid in effective patient management of the effects of the disease and its treatment.

The diagnosis of cancer carries uncertainty and the efficacy and effects of treatments are often unclear (Kalinowski, 1991; Vogel, 1991). In dealing with uncertainty, women with breast cancer frequently devise ways of monitoring their own disease and its response to treatment (Loveys, & Klaich, 1991; Thomas, 1978).

In this chapter, Orem's Self-Care Framework (Orem, 1985), the study's conceptual framework, and pertinent supporting literature were presented. The review of the literature provides a better understanding of enabling skills (Braden, 1990; Hilton, 1988; Rosenbaum, & Smira, 1986), and symptom distress (Christman, 1990; Holmes, 1989; McCorkle, & Quint-Benoliel, 1983). Other studies presented used nursing interventions to promote self-care activities (Gortner et al., 1985; Lorig et al., 1985; 1989; Norcross-

Weintraub, & Hagopian, 1990). Nursing interventions presented include: independent study, self-help classes, and nurse-case management. Studies of self-care pattern also were presented (Dodd, 1981; 1982; 1983; 1984; 1987; 1988). The information presented serves to provide the background for the focus of this study.

### **CHAPTER III**

#### **RESEARCH METHODOLOGY**

A secondary analysis of data, which were collected during the pilot phase of the Self-Help Intervention Project (SHIP), was conducted to examine the relationship among enabling skills, symptom distress, and self-care in women with breast cancer (Braden et al., 1990). The SHIP study was designed to satisfy the needs of women newly diagnosed with breast cancer who are receiving treatments such as surgery, chemotherapy, radiation therapy, and hormonal therapy. Meeting needs of the women was accomplished through nursing interventions such as independent study, self-help class, and nurse case manager. The research design, description of the sample and the setting, protection of human subjects, instrumentation, method of data collection, and statistical treatment are discussed in this chapter.

#### **Research Design**

This study, a secondary analysis of the SHIP Pilot Study data, used a correlational design. Secondary analysis was selected because further information can be gained from the SHIP pilot study data in the area of self-care practices in

women with breast cancer. Data collected at post nursing intervention in this pilot study were analyzed (T2). The relationships among enabling skills, symptom distress, nursing interventions, and self-care in women with breast cancer were examined.

### **Sample and Setting**

The population for this secondary analysis of data consisted of subjects who participated in the pilot study of the Self-Help Intervention Project (SHIP). The SHIP pilot study consisted of 29 women with newly diagnosed breast cancer. Twenty-nine women completed data collection instruments at the beginning of their breast cancer treatment before receiving a self-help nursing intervention (T1). Twenty-six women completed the data collection instrument after receiving a self-help nursing intervention (T2). However, only 23 sets of data were analyzed due to missing data.

Women with breast cancer, who met the pilot study's criteria, were referred by professional colleagues in oncology treatment settings located in a large metropolitan city of the southwestern United States. Names of potential subjects about to enter into treatment were provided to research personnel by those professional colleagues

mentioned above, at the treatment sites. After receiving this information, the research field worker invited potential subjects to participate in the study. Criteria for participation in the study required English fluency, recently diagnosed breast cancer, and minimal age of 18 years.

#### **Protection of Human Subjects in the Pilot Study**

This study was limited to voluntary participation. The project was approved after a thorough review by the Ethical Review Committee of the College of Nursing, and was found to be exempt from review by the University of Arizona Human Subjects Committee since it would have no adverse effect upon the subjects (Appendix A). Permission to conduct the secondary analysis of data collected in the SHIP pilot study was obtained from the College of Nursing Ethical Review Committee (Appendix B).

In the pilot study, a research field worker presented the necessary details of the study, in person, to each prospective subject. It was explained that there were no hazards or costs, and that the subjects could withdraw at anytime during the study. No identifying information would be retained with the raw data which were kept in a locked file. All information would be held in confidence.



### **Instrumentation**

In this secondary analysis, the data from five instruments used in the SHIP pilot study were used. These instruments were: Self-Control Schedule (SCS) (Rosenbaum, 1980), Symptom Transition Scale (STS) (DeGroot, 1989), Symptom Pattern scale (SP) (Mishel, & Braden, 1988), Self-Care Inventory (SCI) (Pardine, Dytell, Napoli, Friedman, & Spencer, 1982), and Inventory of Adult Self Care (IASC) (Braden, 1990).

The Self-Control Schedule (Appendix C) measured individuals' enabling skills. The Symptom Transition Scale (Appendix D) and the Symptom Pattern Scale (Appendix E) measured symptom distress. The Self-Care Inventory (Appendix F) and the Inventory of Adult Self Care (Appendix G) measured the number of direct actions taken by the individuals.

### **Enabling Skills**

Orem viewed the Self-Care Agency construct as being the ability of the individual to perform self-care actions. Individual abilities are influenced by enabling elements (Orem, 1985). The enabling skills concept represented the Self-Care Agency construct in this study. Enabling skills

is the perceived ability to obliterate or modify negative effects inherent in breast cancer.

Enabling skills was operationally defined by the measurement of the use of cognitions in self-instructions, delay of gratification, and employment of problem-solving strategies in women with breast cancer. This variable was measured by Rosenbaum's (1980) Self Control Schedule (SCS) (Appendix C) (Figure 3). The SCS was a self-report, 36-item instrument, in a visual analog format. The items were scored in a positive direction for enabling skill level.

The Self Control Schedule covered the following content areas: 1) use of cognition and self-instruction to deal with emotional and physiological responses, 2) use of problem-solving strategies (i.e., planning, problem definition, evaluating alternatives, and anticipation of consequences), 3) ability to delay immediate gratification, and 4) belief in one's ability to self-regulate internal events. Alpha coefficients computed on six different samples ranged from .78 to .86, indicating high internal consistency among items (Rosenbaum, 1980). Braden (1986, 1987) tested the SCS with internal consistency reliability consistently above .89, and reported strong construct validity.

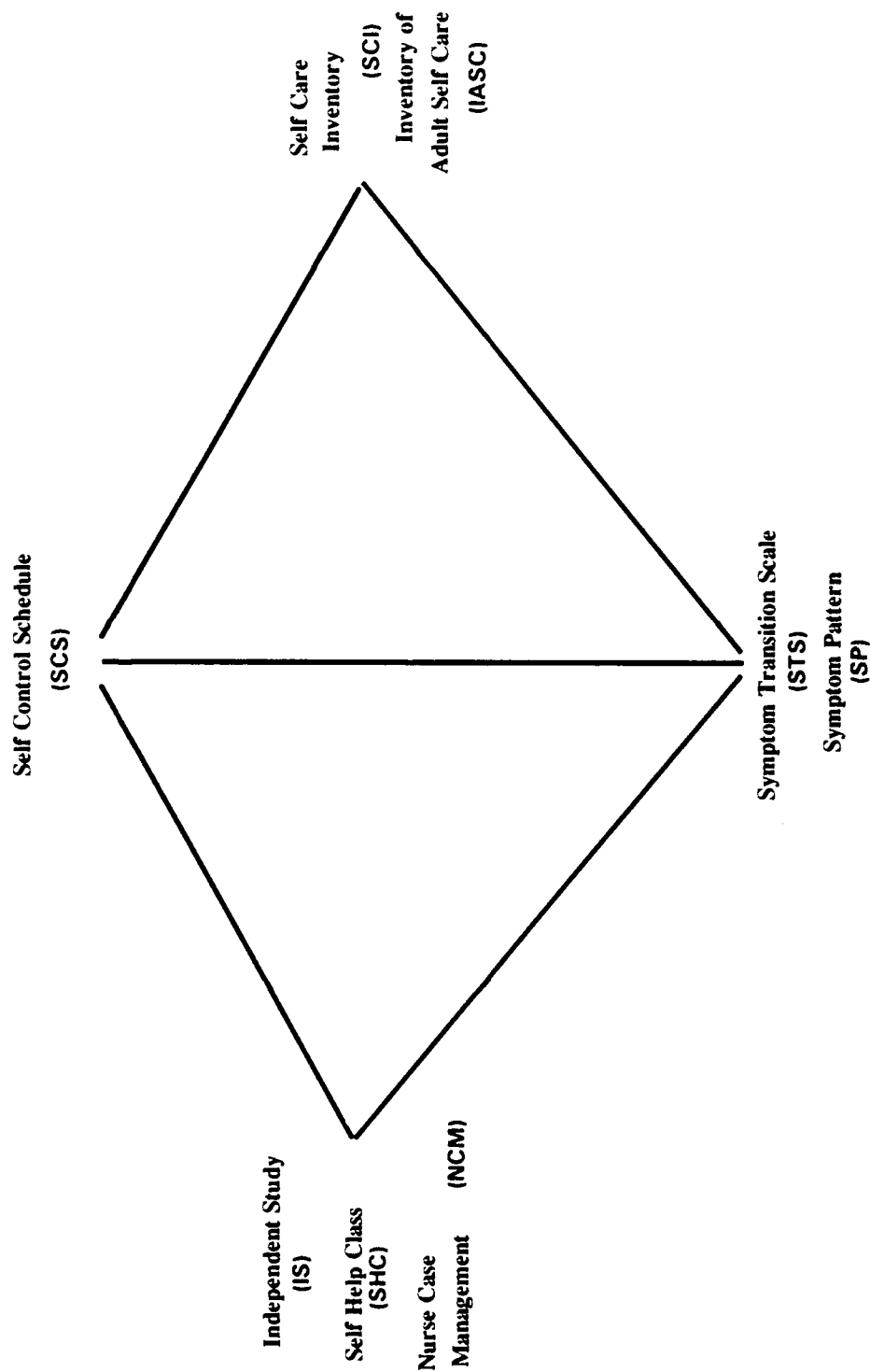


Figure 3. Conceptual Framework for Self-Care in Women with Breast Cancer. Operational Level.

### Nursing Interventions

Each woman in the pilot study received one of the three available nursing interventions: 1) independent study, 2) self-help class, or 3) nurse case manager. Orem's (1985) construct of Nursing Agency was represented by the concept of nursing intervention in this study. Nursing agency was operationally defined by examining the type of self-help promoting intervention the women received in the SHIP's pilot study (dummy coded) (Figure 3).

### Symptom Distress

The Therapeutic Self-Care Demand construct was viewed by Orem (1985) as a measurement of meeting required care in satisfying health-deviated self-care requisites such as side effects from treatment for breast cancer. Distress from symptoms of side effects by women with breast cancer will precipitate some type of self-care response. The fatigue symptom has been reported by patients to be distressing (King et al., 1985). This distress can result in significant self-care demand (Kubricht, 1984).

Symptom distress was operationalized by the assessment of the number, type (symptom pattern), and characteristics of symptoms (symptom transition) experienced by women with

breast cancer. The concept of symptom distress was measured by DeGroot's (1989) Symptom Transition Scale (Appendix D) and Mishel and Braden's (1988) Symptom Pattern scale (Appendix E) (Figure 3).

DeGroot's (1989) Symptom Transitional Scale (STS), a 12-item Likert type scale, measured severity of symptoms experienced by the subjects. In a sample of 124 subjects with Chronic Immune Dysfunction Syndrome, the author reported reliability of the STS coefficient alpha to be .93, inter-item correlation .51, and item-scale correlations from .51 to .78. Construct validity of the STS was evidenced by positive correlations with perceptions of more severe symptoms, lower subjective ratings of current health status, and negative perception of illness course/illness severity/illness prognosis. Higher STS scores were related to lower reported levels of daily activities (DeGroot, personal communication, August 11, 1989).

Mishel and Braden's (1988) Symptom Pattern scale (SP), a 4-item Likert type scale, measured the number of symptoms. The subjects could list up to nine symptoms.

### Self-Care

The Self-Care construct was viewed by Orem (1985) as the quantity of direct action taken by the individual to

prevent or alleviate side effects or preventable complications of breast cancer treatment to maintain well-being. Self-care was operationally defined in this study as the level of self-care activities taken by women with breast cancer. This variable was measured by using a Self-Care Inventory (Pardine, Dytell, Napoli, Friedman, & Spencer, 1982) (Appendix F) and the Inventory of Adult Self Care (Braden, 1990) (Appendix G) ((Figure 3).

The Self-Care Inventory (SCI) (Pardine et al., 1982) is a 40-item, 4-point scale, self-administered inventory. The SCI measured various positive and negative health-behaviors. The health-behavior practices included: 1) diet and eating, 2) rest and sleep, 3) personal hygiene, 4) recklessness, 5) substance abuse, and 6) exercise. The investigators tested the SCI in undergraduate students and reported the internal consistency reliability estimated as a coefficient alpha of .82. Construct validity of the SCI was supported by significant correlations with physical health, and moderate correlations with psychological distress.

Within this secondary data analysis, the Inventory of Adult Self-Care (IASC) (Braden, 1990) consists of 19 items used to measure the adult self-care actions. All IASC items used a visual analog response format. The scale was scored in a positive direction for self-help behaviors. Braden (1990) reported IASC's standardized item Cronbach's alpha

and omega at .91.

#### **Data Collection Method of the SHIP Pilot Study**

Subjects agreed to participate in one of the three nursing interventions. The subjects received nursing interventions from the nurse case manager or attended a series of six self-help classes or received the prepared material for independent study.

Data on each subject were collected at two different times. Time one (T1) data were collected at the time of subject's entrance into the pilot study and prior to the beginning of a self-help nursing intervention. Time two (T2) data were collected at the conclusion of a self-help nursing intervention or six weeks after T1. In this secondary study, only the data from T2 were analyzed.

In the pilot study, each subject spent approximately one hour in completing the data collection instruments. Instruments used in the pilot study included those measuring enabling skills, self-care, self-help, uncertainty, life quality, symptom pattern/distress, adult role behaviors, mastery, event familiarity/congruence, information seeking style, credible authority, access/cost of care, and social support.

Instruments relevant to this secondary analysis included

1) the SCS which measured subjects' enabling skills, 2) the STS and SP which measured the symptom transition and symptom pattern respectively, and 3) the SCI and IASC which measured the amount of direct action taken by subjects in preventing or alleviating side effects.

Data collection was conducted at a place that was convenient to the subjects. Instruments were completed privately by the subjects, after instructions for completion were given, or in the presence of a trained data collector. Completed instruments were kept in a secured area. Research assistants entered the collected data into a computer system. Subjects' names were tracked and maintained by the research coordinator.

### **Data Analysis Plan**

Statistical treatment of the secondary data was accomplished through use of the Statistical Package for Social Sciences (SPSS) from the mainframe on campus at the University of Arizona College of Nursing. Descriptive and correlational statistical analyses were used. The level of significance was predetermined at  $p < .10$ . Analysis of data addressed the following research questions:

1. What is the relationship between **enabling skills** and **self-care**?



2. What is the relationship between **enabling skills** and each of the three **nursing interventions** (Independent Study, Self-Help Class, and Nurse Case Management)?
3. What is the relationship between **enabling skills** and **symptom distress**?
4. What is the relationship between **symptom distress** and each of the three **nursing interventions** (Independent Study, Self-Help Class, and Nurse Case Management)?
5. What is the relationship between **symptom distress** and **self-care**?

All research questions were analyzed using correlational statistics to describe the type and strength of relationship among **enabling skills** and **self-care**, **enabling skills** and each of the three **nursing interventions**, **enabling skills** and **symptom distress**, **symptom distress** and each of the three **nursing interventions**, and **symptom distress** and **self-care**.

### Summary

The research methodology for both the original pilot study, and the present study which is a secondary analysis, was addressed. The setting of the study was reported. The area of human subjects protection was covered. The instruments used in this secondary analysis study were

discussed in detail. The data collection used in the pilot study and the present study were described. Sample selection and criteria for inclusion in the study were delineated. Data analysis included correlational statistics to determine the types of relationships among: 1) the **enabling skills** and **self-care** practice in women with breast cancer; 2) the **enabling skills** and each of the three **nursing interventions** such as: independent study, self-help class, and nurse case management; 3) the **enabling skills** and **symptom distress** in women with breast cancer; 4) **symptom distress** and each of the three **nursing interventions**; and 5) **symptom distress** and **self-care** practice in women with breast cancer.

## CHAPTER IV

### RESULTS OF DATA ANALYSIS

The results of secondary data analysis of the Self Help Intervention Project (SHIP) pilot study, in examining the relationships among enabling skills, nursing interventions, symptom distress, and self-care in women with breast cancer, are presented in this chapter. Included in this chapter are the demographic characteristics of the sample, the psychometric properties of the data collection instruments, analysis of the data related to each of the major variables, and the statistical analysis of the research questions. This secondary data was limited to a total of 23 subjects who completed the questionnaires at the conclusion of self-help nursing intervention (independent study, self-help class, and nurse case management).

#### Demographic Characteristics of the Sample

A convenience sample of 23 women, whose ages ranged from 36 to 72 years ( $\bar{X}=55$ , s.d.=10.30), took part in this study. Fifteen women were married (65.2%); seven were divorced (30.4%); one was separated (4.3%). Five women worked or attended school full-time (21.7%); five worked or attended school part-time (21.7%); 12 did not work or attend

school (52.2%). The majority of the sample had an educational level higher than high-school graduate (Table 1). The family income of the sample ranged less than \$10,000 to more than \$60,000, with the majority of the women having a family income of \$60,000 or greater (Table 2).

Nineteen (82.6%) of the women were white and four (17.3%) were non-white. Fourteen (60.9%) of the women reported having another chronic illness. Four (17.3%) of the women reported no family history of breast cancer in their mother, sister, maternal grandmother, paternal grandmother, or any combination.

Eight (34.9%) of the women had experienced lumpectomy or local excision; two (8.7%) partial mastectomy; five (21.7%) radical mastectomy; three (13.0%) both lumpectomy and partial mastectomy; two (8.7%) both partial and radical mastectomy; two (8.7%) both lumpectomy and radical mastectomy; and one (4.3%) all three treatments of lumpectomy, partial, and radical mastectomy (Table 3). All of the women received a combination of chemotherapy, radiation therapy, and hormone therapy. A majority of the women were treated with radiation and hormone therapy (n=9, 39.1%), followed by chemotherapy and radiation therapy (n=6, 26.1%), four (17.4%) women received chemotherapy and hormonal therapy, and four received all three therapies (Table 4). The range of time since diagnosis of the women's

Table 1. Educational Level of Subjects (n=23)

59

Educational Level	Absolute Frequency	Relative Frequency (%)
8th Grade or less	0	0.0
Some High School	1	4.3
High School Graduate	5	21.7
Trade/Business School	1	4.3
Some College	7	30.4
College Graduate	1	4.3
Graduate/Professional	8	34.8
Total	23	100.00

Table 2. Family Income Level of Subjects (n=23)

60

Family Income Level	Absolute Frequency	Relative Frequency (%)
Below \$10,000	2	8.7
\$10,000 - 19,999	3	13.0
\$20,000 - 29,999	4	17.4
\$30,000 - 39,999	3	13.0
\$40,000 - 49,999	3	13.0
\$50,000 - 59,999	2	8.7
More than \$60,000	5	21.7
Missing Data	1	4.3
Total	23	100.0

Table 3. Surgical Procedures Received by Subjects  
(n=23)

61

Surgical Procedures	Absolute Frequency	Relative Frequency (%)
Radical Mastectomy	5	21.7
Partial Mastectomy	2	8.7
Lumpectomy or Local Excision	8	34.9
Partial and Radical Mastectomy	2	8.7
Lumpectomy and Partial Mastectomy	3	13.0
Lumpectomy and Radical Mastectomy	2	8.7
Lumpectomy, Partial, and Radical Mastectomy	1	4.3
Total	23	100.0

Table 4. Treatments Received by Subjects (n=23)

62

Treatment Types	Absolute Frequency	Relative Frequency
Chemotherapy	0	0.0
Radiation therapy	0	0.0
Hormone therapy	0	0.0
Chemotherapy and Radiation therapy	6	26.1
Radiation therapy and Hormone therapy	9	39.1
Chemotherapy and Hormone therapy	4	17.4
Chemotherapy, radiation therapy, and Hormone therapy	4	17.4
Total	23	100.0



breast cancers was one to seven months ( $\bar{x}=2.2$ , s.d.=1.7).

Table 5 provides information on the frequencies and percentages of the three nursing interventions employed in the Self-Help Intervention Project (SHIP) pilot study.

Eleven (47.8%) women participated in the Nurse Case Management intervention; six (26.1%) participated in the Self-Help Class intervention; and six (26.1%) participated in the Independent Study intervention.

### **Reliability of the Instruments**

Internal consistency reliability of the instruments used to measure enabling skills, symptom distress, and self-care was estimated using Cronbach's coefficient alpha. The criterion for adequate reliability was set at .70 (Burns & Grove, 1987). Only the Inventory of Adult Self Care (IASC) did not meet or exceed the adequate reliability criterion. Table 6 provides the standardized alpha for each instrument.

Rosenbaum's (1980) Self Control Schedule, which measured the variable of Enabling Skills, had high coefficients (std. alpha=.8912, alpha=.8718). DeGroot's (1989) Symptom Transition Scale, which measured the variable of Symptom Distress, generated high coefficients (std. alpha=.9649, alpha=.9647). Pardine et al.'s (1982) Self-Care Inventory (SCI) and Mishel and Braden's (1988)

Table 5. Nursing Interventions Received by Subjects  
(n=23)

64

Nursing Intervention Types	Absolute Frequency	Relative Frequency (%)
Independent Study (IS)	6	26.1
Self Help Class (SHC)	6	26.1
Nurse Case Management (NCM)	11	47.8
Total	23	100.0

Table 6. Instruments' Standardized Alpha and Alpha

65

Instruments	Standardized Alpha	Alpha
SCS	.8912	.8718
STS	.9649	.9647
SCI	.8714	.8801
IASC	.4384	.4416

Note. SCS = Self Control Schedule

STS = Symptom Transition Scale

SCI = Self Care Inventory

IASC = Inventory of Adult Self Care

Inventory of Adult Self Care (IASC) instruments, which measured the variable of Self-Care, yielded high coefficients (std. alpha=.8714, alpha=.8801) and fair coefficients (std. alpha=.4384, alpha=.4416), respectively. In this study, caution needs to be exercised when interpreting the data using the IASC instrument. Symptom Pattern (SP) was used to enumerate the number of symptoms experienced by each subject.

#### **Findings Related to the Research Questions**

Pearson correlation coefficients were computed to determine relationships and strength of relationships among the conceptual variables: Enabling Skills, Nursing Interventions, Symptom Distress, and Self-Care. Selected demographics and treatment related variables were also considered. A correlation coefficient of 0.50 - 0.69 is considered a moderate correlation; and .70 or higher is a high correlation (Munro, Visintainer & Page, 1986). Again, the level of significance was set at  $p < .10$ .

The variable of Enabling Skills was measured by Rosenbaum's (1980) Self Control Schedule (SCS). The results indicated that higher scores correlated with increased perception of control.

The variable of Symptom Distress was measured by the

Symptom Transition Scale (STS) and Symptom Pattern (SP) list. The higher scores on the STS and SP indicated higher symptom variations and higher number of symptoms experienced by the subjects, respectively.

The variable of Nursing Interventions was measured according to which intervention subjects were assigned. The variable of Self-Care was measured by the Self Care Inventory (SCI) and the Inventory of Adult Self Care (IASC). The higher scores in SCI and IASC correlated with higher actions performed by the women in caring for themselves.

Research Question 1 What is the relationship between **enabling skills** and **self-care**?

Table 7 presents the correlation matrix for enabling skills and self-care. A positive significant relationship existed between Enabling Skills and Self- Care. This relationship surfaced when measured with the Self-Control Schedule and Inventory of Adult Self Care (IASC) ( $r=.55$ ,  $p=.007$ ), and Self Control Schedule and Self Care Inventory (SCI) ( $r=.52$ ,  $p=.011$ ). This relationship indicated that the higher the self-control perceived by the women, the more likely they would perform self-care actions. The IASC scale measures the level of self-care in general; whereas, the SCI measures the self-care more specific to breast cancer.

Table 7. Correlation Matrix for Enabling Skills and Self-Care

68

	Self-Care (SCI)	Self-Care (IASC)
Enabling Skills (SCS)	.5197 (p= .011)*	.5541 (p= .007)*

\* p < .10

Note. SCI = Self Care Inventory

IASC = Inventory of Adult Self Care

SCS = Self Control Schedule

Research Question 2 What is the relationship between **enabling skills** and each of the three **nursing interventions**?

Table 8 displays the correlation matrix for enabling skills and each nursing intervention. No significant relationships were found between Enabling Skills and any of the three Nursing Interventions: Independent Study (IS), Self Help Class (SHC), and Nurse Case Management (NCM).

Research Question 3 What is the relationship between **enabling skills** and **symptom distress**?

Table 9 presents the correlation matrix for enabling skills and symptom distress. Enabling Skills was positively related to Symptom Distress when measured with Self Control Schedule (SCS) and Symptom Transition Scale (STS) ( $r=.44$ ,  $p=.041$ ). This relationship demonstrated that the more symptom variations the women had, the greater the self-control perceived by those women. However, a non-significant negative relationship was found between Enabling Skills and Symptom Distress when measured with SCS and Symptom Pattern (SP) scales ( $r=-.27$ ,  $p=.209$ ).

Research Question 4 What is the relationship between **symptom distress** and each of the three **nursing interventions**?

Table 10 presents the correlation matrix for Symptom

Table 8. Correlation Matrix for Enabling Skills and Nursing Interventions

70

	Independent Study (IS) (n=6)	Self Help Class (SHC) (n=6)	Nurse Case Management (NCM) (n=11)
Enabling Skills (SCS)	.0735 (p= .739)	-.1443 (p= .511)	.0622 (p= .778)
p < .10			

Note. SCS = Self Control Schedule



Table 9. Correlation Matrix for Enabling Skills and Symptom Distress

71

	Symptom Distress (STS) (transition)	Symptom Distress (SP) (number)
Enabling Skills (SCS)	.4390 (p= .041)*	-.2721 (p= .209)

\* p < .10

Note. STS = Symptom Transition Scale

SP = Symptom Pattern (numbers of symptoms)

SCS = Self Control Schedule

Table 10. Correlation Matrix for Symptom Distress and Nursing Interventions

72

	Independent Study (IS) (n=6)	Self Help Class (SHC) (n=6)	Nurse Case Management (NCM) (n=11)
Symptom Distress (STS)	-.2843 (p= .200)	.0836 (p= .711)	.1795 (p= .424)
Symptom Distress (SP)	-.1367 (p= .534)	.4375 (p= .037) *	-.2644 (p= .223)

\* p < .10

Note. STS = Symptom Transition Scale

SP = Symptom Pattern (numbers of symptoms)

Distress and each of the three Nursing Interventions. Symptom Distress, measured by SP, was positively related to Self-Help Class (SHC) intervention ( $r=.44$ ;  $p=.037$ ). This relationship indicates that the women having greater numbers of symptoms were those who participated in the Self-Help Class. No other relationships were found.

Research Question 5 What is the relationship between symptom distress and self-care?

Table 11 presents the correlation matrix for Symptom Distress and Self-Care. Symptom Distress was negatively related to Self-Care when measured by Symptom Pattern (SP) and Self Care Inventory (SCI) ( $r=-.55$ ;  $p=.007$ ); however, Symptom Distress was positively but minimally correlated with Self-Care when measured by Symptom Transition Scale (STS) and SCI ( $r=.36$ ;  $p=.099$ ). These correlations indicated that the numbers of symptoms experienced by the women, the less likely they performed self-care actions; however, the more variations within the symptoms pattern (symptom transition) experienced by the women, the more likely they would perform self-care actions.

Demographic Variables

Table 12 presents the correlation matrix for

Table 11. Correlation Matrix for Symptom Distress and Self Care

74

	Self-Care (SCI)	Self-Care (IASC)
Symptom Distress (STS)	.3603 (p= .099) *	.1893 (p= .411)
Symptom Distress (SP)	-.5486 (p= .007) *	-.3069 (p= .165)

\* p < .10

Note. SCI = Self Care Inventory

IASC = Inventory of Adult Self Care

STS = Symptom Transition Scale

SP = Symptom Pattern (numbers of symptoms)

Table 12. Correlation Matrix for Demographic Variables, Self-Care, Enabling Skills, Symptom Distress, and Nursing Interventions

	SCI	IASC	SCS	STS	SP	IS	SHC	NCM
Age	.5146 p=.012*	.5228 p=.013*	.5614 p=.005*	.3835 p=.078*	-.1153 p=.600	-.0821 p=.710	-.0428 p=.846	.1098 p=.618
Marital Status	.3096 p=.151	.2572 p=.248	.1290 p=.557	-.0252 p=.912	-.1352 p=.539	-.3977 p=.060*	.2260 p=.300	.1510 p=.492
Work/ School	-.2760 p=.214	-.1423 p=.538	-.3384 p=.124	-.4800 p=.024*	-.3776 p=.083*	.3623 p=.097*	-.2604 p=.242	-.0911 p=.687
Education Status	.3953 p=.062*	-.0527 p=.816	.0879 p=.690	.2266 p=.311	-.1688 p=.441	-.0470 p=.831	-.2870 p=.184	.2936 p=.174
Family Income	.6739 p=.001*	.1589 p=.492	.4779 p=.024*	.1543 p=.504	-.5153 p=.014*	-.1852 p=.409	-.1343 p=.551	.2857 p=.197

\* p < .10

Note. SCI = Self Care Inventory  
IASC = Inventory of Adult Self Care  
SCS = Self Control Schedule  
STS = Symptom Transition Scale  
SP = Symptom Pattern (numbers of symptoms)  
IS = Independent Study Intervention  
SHC = Self Help Class Intervention  
NCM = Nurse Case Management Intervention

demographic variables and Self-Care, Enabling Skills, Symptom Distress, and individual Nursing Intervention.

Age - Age was found to have a positive significant relationship with: 1) Self-Care, measured with the Self Care Inventory ( $r=.51$ ,  $p=.012$ ), and the Inventory of Adult Self Care ( $r=.52$ ,  $p=.013$ ); 2) Enabling Skills ( $r=.56$ ,  $p=.005$ ); and 3) Symptom Distress, measured with Symptom Transition Scale ( $r=.38$ ,  $p=.078$ ). These findings indicated that the older women performed more self-care actions, perceived higher self-control, and had more symptom variations than younger women.

Marital Status - Marital status of married versus non-married had a negative relationship with the Independent Study (IS) intervention ( $r=-.40$ ,  $p=.060$ ). This indicated that married women were less likely to participate in the Independent Study (IS) intervention.

Work and or School Status - Work/school status displayed a strong negative relationship to Symptom Distress in both Symptom Pattern ( $r=-.38$ ,  $p=.083$ ) and Symptom Transition Scale ( $r=-.48$ ,  $p=.024$ ).

Education Level - Education was positively related to Self-Care when measured with Self Care Inventory ( $r=.40$ ,  $p=.062$ ). This relationship indicated that the women with higher education performed more self-care actions.

Income Level - Income level was positively related with

Self-Care when measured with Self-Care Inventory ( $r=.67$ ,  $p=.001$ ) and Enabling Skills ( $r=.48$ ,  $p=.024$ ), indicating that the women with higher incomes performed more self-care actions and perceived higher self-control. On the other hand, income level was negatively related to Symptom Distress when measured with Symptom Pattern ( $r=-.52$ ,  $p=.014$ ), indicating that lower income women experienced more symptoms.

#### Treatment Variable

Table 13 displays the correlation matrix for treatment types, Self-Care, and Symptom Distress. A positive significant relationship existed between the type of treatment and Self-Care, when measured with the Self-Care Inventory. The women who had radiation therapy ( $r=.40$ ,  $p=.001$ ), and women who had hormone therapy ( $r=.43$ ,  $p=.041$ ) performed more self-care actions. Moreover, the type of treatment was positively related to (transition) Symptom Distress. Women with radiation ( $r=.50$ ,  $p=.020$ ), hormone ( $r=.60$ ,  $p=.003$ ), radiation and hormone ( $r=.60$ ,  $p=.003$ ), chemotherapy and hormone ( $r=.43$ ,  $p=.047$ ), and chemotherapy, radiation and hormone therapies ( $r=.43$ ,  $p=.047$ ) experienced more symptom variations.

Table 13. Correlation Matrix for Treatment Types, Self-Care, and Symptom Distress

	SCI	IASC	STS	SP
TXTYPE1	-.2741 p=.206	-.2559 p=.250	-.2097 p=.349	.3500 p=.102
TXTYPE2	.3963 p=.061*	.1692 p=.452	.4929 p=.020*	-.3321 p=.122
TXTYPE3	.4289 p=.041*	.2747 p=.216	.5961 p=.003*	-.1080 p=.624
TXTYPE4	.2828 p=.191	.1132 p=.616	.3059 p=.166	-.0893 p=.685
TXTYPE5	.3034 p=.159	.0930 p=.681	.5961 p=.003*	-.0114 p=.959
TXTYPE6	.1228 p=.577	.0821 p=.717	.4272 p=.047*	.0300 p=.892
TXTYPE7	.1228 p=.577	.0821 p=.717	.4272 p=.047*	.0300 p=.892
p < .10				

Note. SCI = Self Care Inventory  
IASC = Inventory of Adult Self Care  
STS = Symptom Transition Scale  
SP = Symptom Pattern (numbers of symptoms)

TXTYPE1 = chemotherapy  
TXTYPE2 = radiation therapy  
TXTYPE3 = hormone therapy  
TXTYPE4 = chemo and radiation  
TXTYPE5 = radiation and hormone  
TXTYPE6 = chemo and hormone  
TXTYPE7 = chemo, radiation, hormone



### Summary

The results of the data analysis were presented and discussed in this chapter. Demographic characteristics of the sample, reliability of the instruments, and statistical analyses of the research questions were addressed.

In this study, the mean age of the subjects was 55 years. The majority of the women were white, married, not working or attending school, and educated higher than high school level. Most of the women had a family income of \$60,000 or greater.

A positive significant relationship existed between Enabling Skills and Self-Care. No significant relationships were found between Enabling Skills and any of the three Nursing Interventions. Enabling Skills was positively related to Symptom Distress.

Symptom Distress was positively related with Self Help Class (SHC) intervention. Symptom Distress (pattern) was negatively related to Self-Care; however, (transition) Symptom Distress was positively and minimally correlated with Self-Care.

In addition, statistical analyses of demographics and treatment variables in relation to the research variables: Enabling Skills, Symptom Distress, Nursing Interventions, and Self-Care were addressed. Age was found to have a

positive significant relationship with Self-Care, Enabling Skills, and Symptom Distress. Marital status of married versus non-married had a negative relationship with Independent Study (IS) intervention. Work/school status displayed a strong negative relationship with Symptom Distress; however, work/school status was positively related to Independent Study (IS) intervention. Education was positively related to Self-Care. Income level was positively related with Self-Care; on the other hand, income level was negatively related to Symptom Distress.

There was a positive significant relationship between type of treatment (radiation therapy, hormone therapy) and Self-Care. Moreover, the type of treatment (radiation therapy; hormone therapy; radiation and hormone therapies; chemotherapy and hormone therapy; chemotherapy, radiation and hormone therapies) was positively related to (transition) Symptom Distress.

## CHAPTER V

### DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

Findings related to the conceptual framework of this study are presented in this chapter. Implications for nursing practice and limitations of the study are offered.

#### Findings Related to the Conceptual Framework

The purpose of this secondary analysis was to determine the relationship, if any, among Enabling Skills, Nursing Interventions (Independent Study, Self Help Class, and Nurse Case Management), Symptom Distress, and Self-Care in women with breast cancer.

Conceptual Framework. The four major constructs in Orem's (1985) Self-Care Framework are Self-Care Agency, Nursing Agency, Therapeutic Self-Care Demand, and Self-Care. In this secondary analysis, the first construct of Self-Care Agency was represented on the conceptual level by Enabling Skills. The second construct of Nursing Agency was represented by Nursing Interventions of Independent Study (IS), Self-Help Class (SHC), and Nurse Case Management (NCM). The third construct of Therapeutic Demand was represented by Symptom Distress. The last construct of

Self-Care was represented by Self-Care. The interactive nature of these concepts, as delineated in Figure 2 and Figure 3, interact to influence self-care.

### Enabling Skills

Enabling Skills and Self-Care. Enabling Skills was found to have a positive relationship with Self-Care ( $r=.55$ ,  $p=.007$ ) (Figure 4). Subjects having high enabling skills were more likely to perform self-care actions. Those subjects who had high enabling skills were also considered to have increased coping skills. Coping skills are essential in seeking information, self-instruction, making choices, and modifying the situation; all of which are important elements in self-care process.

This finding is congruous with other studies. Braden (1990) found a positive relationship between enabling skills and self-help in patients with rheumatoid arthritis. Lovejoy, Paul, Freeman and Christianson (1991) found that the perceived inability to control situations was inversely related to frequency of self-care performance in men who were HIV seropositive.

Enabling Skills and Nursing Interventions. There was no relationship found between Enabling Skills and Nursing interventions (Independent Study, Self-Help Class, and Nurse

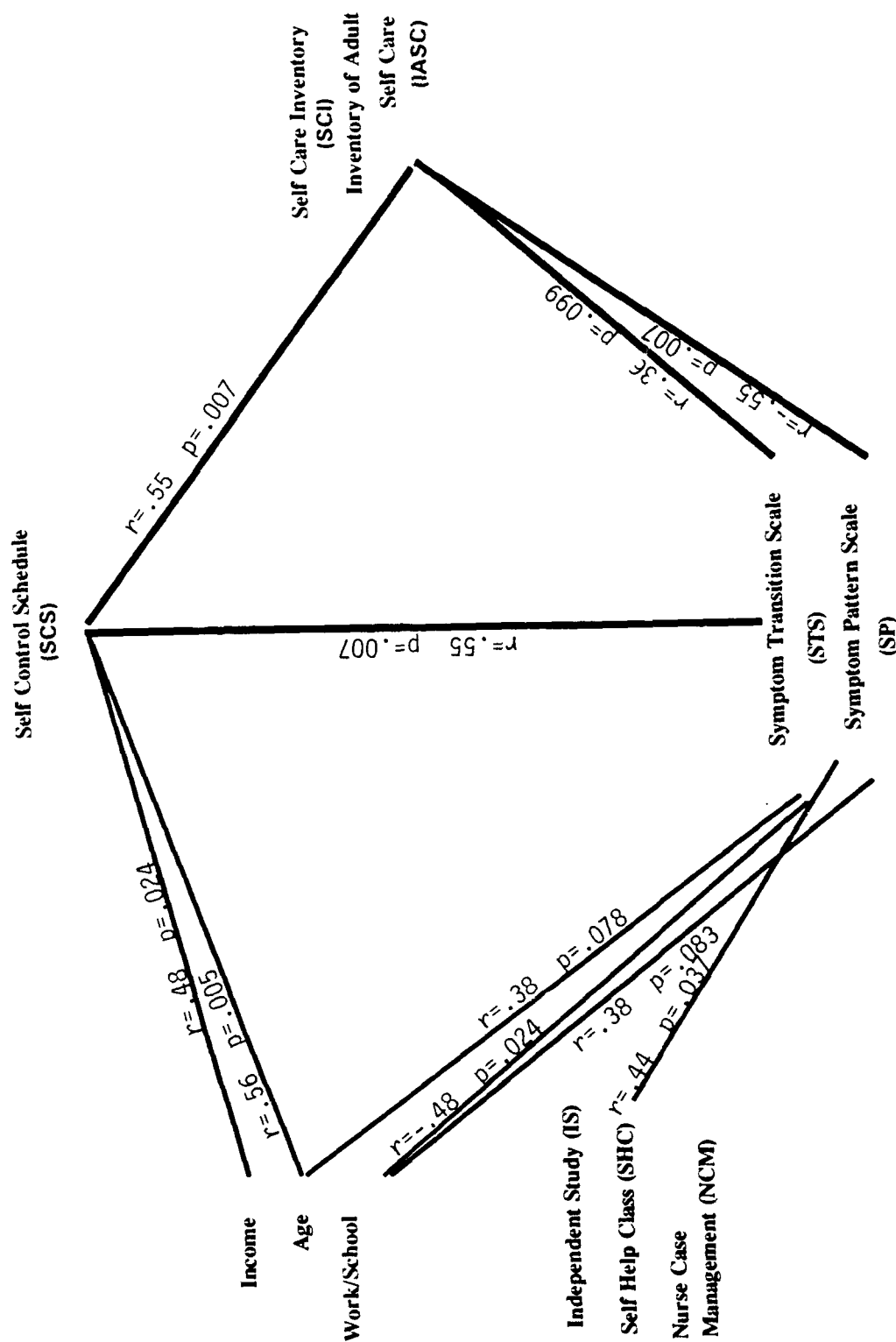


Figure 4. Conceptual Framework for Self-Care in Women with Breast Cancer. Findings.

Case Management) (Figure 4).

Enabling Skills and Symptom Distress. In this secondary analysis, Enabling Skills was positively related to symptom distress ( $r=.44$ ,  $p=.041$ ) (Figure 4). The women who perceived themselves as having more enabling skills also experienced more symptom distress.

Having sufficient enabling skills is equal to having sufficient coping skills (Lewinsohn & Alexander, 1990). Coping skills, as defined by Rosenbaum (1980) as part of Enabling Skills, include self-instructions in coping with emotional and physiological reactions, problem-solving, and self-regulating of own internal events. This finding is inconsistent with Lewinsohn and Alexander (1990) who found that persons who were high on enabling skills were also less likely to become depressed.

Enabling Skills and Demographic Variables. The demographic variables examined in this study included age, marital status, work/school status, educational level, and income level. Age and Income were positively related to Enabling Skills (Figure 4). Women who were older and had higher family income reported having higher enabling skills. They perceived themselves to be in control of their situation.

### Symptom Distress

The women in this secondary data analysis experienced a moderate amount of symptom distress. The types of symptoms most frequently experienced by the women were fatigue, nausea, vomiting, skin irritation, and mouth sores. These reported symptoms in this sample were parallel to the symptoms documented in other studies (Dodd, 1988; Knobf, 1986), and were frequently experienced by women with breast cancer who were undergoing treatment.

Symptom Distress and Nursing Interventions. The only relationship found was a positive relationship between Symptom Distress and Self-Help Class (SHC) intervention ( $r=.44, p=.037$ ) (Figure 4). Women having more symptoms were participants in the Self-Help Class.

Symptom Distress and Self-Care. Symptom (number) Distress was negatively related to Self-Care ( $r=-.55, p=.007$ ), and Symptom (transition) Distress was positively related to Self-Care ( $r=.36, p=.099$ ) (Figure 4). The difference in the results reflected by the two scales Symptom Transition Scale (STS) and Symptom Pattern (SP) may be due to fact that the scales were used to measure the different aspects of symptom distress. The STS measures the variations and transition of symptoms. The SP measures the numbers of symptoms experienced by the subjects.

The first correlation indicated that the more numbers of symptoms experienced by the women, the less likely they would perform self-care actions. The second correlation indicated that the more variations of symptoms in pattern (symptom transition) experienced by the women, the more likely they would perform self-care actions. The increased diversity of symptoms evokes more distress; increased perception of symptom distress, in turn, enhances women's Enabling Skills and thereby enables them to perform more self-care actions to reduce distress from symptoms.

Symptom Distress and Demographic Variables. The demographic variables examined in this study included age, marital status, work/school status, educational level, and income level. Symptom Distress was positively related to age while negatively related to work/school status and income level (Figure 4).

Older women reported experiencing more distress from symptoms' variations and patterns. This supports earlier findings of older women with breast cancer who had limited activities (Vinokur, Threatt, Caplan & Zimmerman, 1989; Vinokur, Threatt, Vinokur-Kaplan, Satariano, 1990) which consequently in this study, may affect abilities to care for their side effects. Therefore, present or increased side effects from treatments may lead to higher symptom distress in older women.



Symptom Distress was negatively related to work/school status and income level (Figure 4). Women who reported higher symptom distress were those who did not work or attend school full-time, and/or had a low income. The increased distress from breast cancer and its treatments may have affected subjects' abilities in remaining on a full-time job or attending full-time school. The inability to remain employed, in turn, influences family income.

Symptom Distress and Treatment Types Variable. The type of treatment variable examined in this secondary data analysis included any possible types of combination (chemotherapy, radiation therapy, and hormone therapy) treatments. Symptom Distress was positively related to treatment types. Increased Symptom Distress was reported in the order of severity by subjects who received only hormone therapy, both radiation therapy and hormone therapy, only radiation therapy, both chemotherapy and hormone therapy, and all three treatments. All women who had hormone treatment alone or in combination with another treatment reported increased symptom distress.

On the contrary, those women who had chemotherapy reported symptom distress less frequently. This may indicate that subjects may be more aware of side effects from chemotherapy; therefore, they may have taken actions to prevent the symptoms from occurring. Chemotherapy side

effects were less of a problem because the subjects perceived they could do something about them. On the other hand, side effects of hormone treatment were treated lightly and were not emphasized. If a side effect happened unexpectedly and subjects were not aware of how to handle it, then the situation could cause greater concern.

### **Implications for Nursing Practice**

Breast cancer is the second leading cause of death among American women (American Cancer Society, 1992). Breast cancer and its treatments affect nearly all aspects of women's lives. In women, breast cancer is probably the most feared cancer, due to its frequency of one in every nine women (Scanlon, 1991). Thus, it is essential for health care providers to focus on interventions that enable women to provide care for self in the disease process.

In this secondary data analysis study, the sample of women (n=23) with breast cancer experienced moderate distress from side effects of breast cancer treatment. Enabling Skills was found to have a positive relationship with age, family income, Symptom Distress, and Self Care. Only the Self Help Class (SHC) intervention had a positive relationship with Symptom Distress. Nurses can target interventions that enhance Enabling Skills of the

individuals and, in turn, improve Self-Care abilities in dealing with the disease.

Self-Care was negatively related to Symptom (pattern) Distress and positively related to Symptom (transition) Distress. Nurses can implement strategies that reduce symptom patterns which can strengthen the individual's self-care actions.

Symptom Distress was positively related to age and type of treatment; while negatively related to work/school status and income level. Variables such as age, work/school status, and family income of the individuals are not in the realm of nursing. Even types of treatment received by patients are dictated by their diagnosis and prognosis. However, nurses can intervene by preparing patients for possible side effects and self-actions in caring for the side effects, with emphasis on older patients. Patients knowing what to expect, what to do, and how to control or do something about the situation will enhance patients' enabling skills in coping with the situations.

#### **Limitations of the Study**

The primary limitation of this secondary analysis of the Self Help Intervention Project (SHIP) pilot study was its small sample size (n=23). Small sample size dictated

the number of subjects in each Nursing Intervention (Independent Study n=6, Self Help Class n=6, and Nurse Case Management n=11), and may have affected the outcome. Therefore, the generalizability of the findings from this study is limited.

The secondary limitation was the heterogeneity of the sample. The distress of women with breast cancer who receive chemotherapy is different from the distress of women who receive hormone therapy. The inclusion of various types of treatment received by the women with breast cancer limited the generalizability of the findings.

Thirdly, cautions must be taken in interpretation of these data due to the low reliability of one of the five instruments used, the Inventory of Adult Self-Care (IASC).

### **Conclusions**

The relationships among Enabling Skills, Symptom Distress, Nursing Interventions, and Self-Care are dynamic and complex. Women with breast cancer in this secondary study experienced moderate distress, as represented by their listed symptoms, associated with breast cancer and its treatment. The more Symptom (pattern) Distress experienced, the less patients performed self-care actions, while increased Symptom (transition) Distress is positively

related to Self-Care.

The results of this study found that Enabling Skills was positively related to Symptom Distress and Self-Care. Symptom Distress was positively related to Self-Help Class intervention. Both Enabling Skills and Symptom Distress are influenced by certain demographic variables such as age, income, and work/school status.

Women with breast cancer can benefit from nursing interventions (Nursing Agency construct) that increase their perceived self-control (Self-Care Agency construct), reduce their perceived distress from side effects of cancer treatment (Therapeutic Self-Care Demand construct), and thereby enhance their self-care performance (Self-Care construct). In addition, patients' unique situations such as age, work/school status, family income, and type of treatment play a part in patients' self-care performance.

The nursing intervention, educating patients about expected side effects from their own treatment and its management, may empower patients and at the same time may reduce their distress from treatment side effects and consequently amplify the level of patient self-care performance. The key variable is enabling skills of the patient. It is therefore imperative that interventions be focused upon improving the conditions which promote and enhance patients' enabling skills.

It is crucial that nursing interventions target patients with breast cancer in a manner which is efficient and effective within the perceptions of the patients. To achieve this goal, nurses must understand the relationship of the real-life variables connected to required enabling and empowering practice. Once patients achieve an appropriate level of self-care ability (knowledge, motivation, ability to make choices, problem solving strategy, self-control), they will be prepared and ready to take responsibility for managing their illness.

APPENDIX A

PROJECT "SHIP" HUMAN SUBJECTS APPROVAL



THE UNIVERSITY OF ARIZONA  
TUCSON, ARIZONA 85721

COLLEGE OF NURSING

MEMORANDUM

TO: Dr. Carrie Jo Braden

FROM: Linda R. Phillips, PhD, RN, FAAN *LRP*  
Director of Research

DATE: November 30, 1987

RE: Human Subjects Review: Three Interventions Promoting Learned Self Help Response

Your project has been reviewed and approved as exempt from University review by the College of Nursing Ethical Review Subcommittee of the Research Committee and the Director of Research. A consent form with subject signature is not required for projects exempt from full University review. Please use only a disclaimer form for subjects to read before giving their oral consent to the research. The Human Subjects Project Approval Form is filed in the office of the Director of Research if you need access to it.

We wish you a valuable and stimulating experience with your research.

LRP/mg




APPENDIX B

HUMAN SUBJECTS APPROVAL

MEMORANDUM

TO: Diep N. Duong  
P.O. Box 57214  
Tucson, Arizona 85732

FROM: Lee Crosby, D.N.Sc., R.N. 

DATE: June 25, 1991

SUBJECT: Human Subject's Approval for Thesis Research "Self-Help Intervention Project:  
A Pilot Study"

Your research on the above entitled project, requires no further approval for secondary analysis of data as it has received prior approval as an exempt project.

Best wishes with your research.

LC:jbr

APPENDIX C

SELF-CONTROL SCHEDULE

### SELF CONTROL SCHEDULE (SCS)

Read the following statement and place mark at the point on the line that best fits you today.

1. When I do a boring job, I think about the less boring parts of the job and the reward I will receive once I am finished.

True about me \_\_\_\_\_ Not true about me

2. When I have to do something that is anxiety arousing for me, I try to visualize how I will overcome my anxieties while doing it.

Not true about me \_\_\_\_\_ True about me

3. Often by changing my way of thinking I am able to change my feelings about almost anything.

True about me \_\_\_\_\_ Not true about me

4. I often find it difficult to overcome my feelings of nervousness and tension without any outside help.

Not true about me \_\_\_\_\_ True about me

5. When I am feeling depressed I try to think about pleasant events.

True about me \_\_\_\_\_ Not true about me

6. I cannot avoid thinking about mistakes I have made in the past.

Not true about me \_\_\_\_\_ True about me

7. When I am faced with a difficult problem, I try to approach its solution in a systematic way.

True about me \_\_\_\_\_ Not true about me

8. I usually do my duties quicker when somebody is pressuring me.

Not true about me \_\_\_\_\_ True about me

9. When I am faced with a difficult decision, I prefer to postpone making a decision even if all the facts are at my disposal.

True about me \_\_\_\_\_ Not true about me

10. When I find that I have difficulties in concentrating on my reading, I look for ways to increase my concentration.

Not true about me \_\_\_\_\_ True about me

11. When I plan to work, I remove all the things that are not relevant to my work.

True about me \_\_\_\_\_ Not true about me

12. When I try to work, I remove all the things that are not relevant to my work.

Not true about me \_\_\_\_\_ True about me

13. When an unpleasant thought is bothering me, I try to think about something pleasant.

True about me \_\_\_\_\_ Not true about me

14. If I smoked two packages of cigarettes a day, I probably would need outside help to stop smoking.

Not true about me \_\_\_\_\_ True about me

15. When I am in a low mood, I try to act cheerful so my mood will change.

True about me \_\_\_\_\_ Not true about me

16. If I had the pills with me, I would take a tranquilizer whenever I felt tense and nervous.

Not true about me \_\_\_\_\_ True about me

17. When I am depressed, I try to keep myself busy with things that I like.

True about \_\_\_\_\_ Not true  
me about me

18. I tend to postpone unpleasant duties even if I could perform them immediately.

Not true \_\_\_\_\_ True about  
about me me

19. I need outside help to get rid of some of my bad habits.

True about \_\_\_\_\_ Not true  
me about me

20. When I find it difficult to settle down and do a certain job, I look for ways to help me settle down.

Not true \_\_\_\_\_ True about  
about me me

21. Although it makes me feel bad, I cannot avoid thinking about all kinds of possible catastrophes in the future.

True about \_\_\_\_\_ Not true  
me about me

22. First of all I prefer to finish a job that I have to do and then start doing the things I really like.

Not true \_\_\_\_\_ True about  
about me me

23. When I feel pain in a certain part of my body, I try not to think about it.

True about \_\_\_\_\_ Not true  
me about me

24. My self-esteem increases once I am able to overcome a bad habit.

Not true \_\_\_\_\_ True about  
about me me

25. In order to overcome bad feelings that accompany failure, I often tell myself that it is not so catastrophic and that I can do something about it.

True about \_\_\_\_\_ Not true  
me about me

26. When I feel that I am too impulsive, I tell myself stop and think before you do anything.

Not true \_\_\_\_\_ True about  
about me me

27. Even when I am terribly angry at somebody, I consider my actions very carefully.

True about \_\_\_\_\_ Not true  
me about me

28. Facing the need to make a decision, I usually find out all the possible alternatives instead of deciding quickly and spontaneously.

Not true \_\_\_\_\_ True about  
about me me

29. Usually I first do the things I really like to do even if there are more urgent things to do.

True about \_\_\_\_\_ Not true  
me about me

30. When I realize that I cannot help but be late for an important meeting, I tell myself to keep calm.

Not true \_\_\_\_\_ True about  
about me me

31. When I feel pain in my body, I try to divert my thoughts from it.

True about \_\_\_\_\_ Not true  
me about me

32. I usually plan my work when faced with a number of things to do.

Not true \_\_\_\_\_ True about  
about me me

33. When I am short of money, I decide to record all my expenses in order to plan more carefully in the future.

True about \_\_\_\_\_ Not true  
me about me

34. If I find it difficult to concentrate on a certain job, I divide the job into smaller segments.

Not true \_\_\_\_\_ True about  
about me me

35. Quite often I cannot overcome unpleasant thoughts that bother me.

True about \_\_\_\_\_ Not true  
me about me

36. Once I am hungry and unable to eat, I try to divert my thoughts away from my stomach or try to imagine that I am satisfied.

Not true \_\_\_\_\_ True about  
about me me



APPENDIX D

SYMPTOM TRANSITION SCALE

DATE: \_\_\_\_\_

ID #: \_\_\_\_\_

T: \_\_\_\_\_

## STS

Think about the symptoms of your illness or condition over the PAST WEEK. Compare your present symptoms to the symptoms you had before this week. Then, indicate how much you agree or disagree with the following statements by using the five point scale which follows each statement: 1 = Strongly Disagree; 2 = Disagree; 3 = Undecided or Unsure; 4 = Agree; 5 = Strongly agree. Circle the one number which most closely fits your experience over the PAST WEEK.

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. Overall, my symptoms are getting better.                     | 1 | 2 | 3 | 4 | 5 |
| 2. I have more types/kinds of symptoms than I did before.       | 1 | 2 | 3 | 4 | 5 |
| 3. I am free of symptoms more often now.                        | 1 | 2 | 3 | 4 | 5 |
| 4. I notice my symptoms more often now.                         | 1 | 2 | 3 | 4 | 5 |
| 5. My symptoms are not as bad/severe as they have been.         | 1 | 2 | 3 | 4 | 5 |
| 6. My symptoms interfere with my life more now.                 | 1 | 2 | 3 | 4 | 5 |
| 7. My symptoms seem to last for a longer time now.              | 1 | 2 | 3 | 4 | 5 |
| 8. I have a greater number of symptoms now.                     | 1 | 2 | 3 | 4 | 5 |
| 9. I have new symptoms that I have not felt before.             | 1 | 2 | 3 | 4 | 5 |
| 10. My symptoms are more visible to others than they have been. | 1 | 2 | 3 | 4 | 5 |
| 11. My symptoms don't bother me any more than they usually do.  | 1 | 2 | 3 | 4 | 5 |
| 12. I experience my symptoms less often now.                    | 1 | 2 | 3 | 4 | 5 |

APPENDIX E

SYMPTOM PATTERN SCALE

## SP SCALE

DIRECTIONS: In the columns to the right, list the major symptoms you have that are a result of your illness. For each symptom, answer questions 1 through 4 by placing the number that represents your best answer in the column to the right of that question. FOR EXAMPLE, if you have swelling, list swelling in the space for symptom 1. Then answer questions 1 through 4 for "swelling". Do the same for symptoms 2 through 9 that you list.

	SYMPTOM								
	1	2	3	4	5	6	7	8	9
1. How frequently does this symptom occur? 1. It occurs almost constantly 2. It occurs frequently 3. It occurs sometimes 4. It comes and goes 5. I never know when it will occur									
2. The symptom occurs in the same area of my body: 1. Almost always 2. Frequently 3. Sometimes 4. Seldom 5. Never									
3. The feeling produced by this symptom varies: 1. Never 2. Seldom 3. Sometimes 4. Frequently 5. Almost always									
4. Once the symptom occurs, I know how long it will last: 1. Almost always 2. Frequently 3. Sometimes 4. Seldom 5. Never									

Date: \_\_\_\_\_ T: \_\_\_\_\_ ID #: \_\_\_\_\_

APPENDIX F

SELF-CARE INVENTORY SCALE

DATE: \_\_\_\_\_

ID # \_\_\_\_\_ 108

T: \_\_\_\_\_

SCI

### INSTRUCTIONS

This questionnaire deals with a variety of health practices that may affect an individual's physical well being. The items in the questionnaire relate both to positive and negative health behaviors and health patterns.

Each item in the questionnaire asks about your health practices during the past week. Read each item and report how frequently you engaged in the behavior during the past week. Indicate how often you engaged in the behavior by circling "RARELY OR NEVER," "SOME OF THE TIME," "QUITE OFTEN" or "NEARLY ALL OF THE TIME."

The value of this questionnaire depends upon your frankness in reporting the occurrence of particular behaviors. Your answers will be kept strictly confidential and the information gathered from this questionnaire will be used solely for research purposes.

Please read each item and try to answer it as accurately as you can. BE SURE TO ANSWER EVERY ITEM IN THE QUESTIONNAIRE.

Please circle the answer which best describes your behavior during the past month.

#### DURING THE PAST WEEK DID YOU:

- |  |                         |                             |                     |                                   |
|--|-------------------------|-----------------------------|---------------------|-----------------------------------|
| 1. Find times to eat so that you get the right amount of important things during a day's time? | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |
| 2. Find foods and/or recipes that provide you with the basics for good nutrition?              | 1<br>RARELY<br>OR NEVER | 3<br>SOME<br>OF THE<br>TIME | 2<br>QUITE<br>OFTEN | 1<br>NEARLY<br>ALL OF<br>THE TIME |
| 3. Substitute junk food (candy, potato chips, soda) for a regular meal?                        | 4<br>RARELY<br>OR NEVER | 3<br>SOME<br>OF THE<br>TIME | 2<br>QUITE<br>OFTEN | 1<br>NEARLY<br>ALL OF<br>THE TIME |

1. Snack on junk foods?	4 RARELY OR NEVER	3 SOME OF THE TIME	2 QUITE OFTEN	1 109 NEARLY ALL OF THE TIME
5. Eat foods that give you trouble with digestion?	4 RARELY OR NEVER	3 SOME OF THE TIME	2 QUITE OFTEN	1 NEARLY ALL OF THE TIME
6. Follow suggestions to reduce or avoid nausea or vomiting	1 RARELY OR NEVER	2 SOME OF THE TIME	3 QUITE OFTEN	4 NEARLY ALL OF THE TIME
7. Follow suggestions to maintain appetite and adequate nutrition?	1 RARELY OR NEVER	2 SOME OF THE TIME	3 QUITE OFTEN	4 NEARLY ALL OF THE TIME
8. Not get enough sleep?	4 RARELY OR NEVER	3 SOME OF THE TIME	2 QUITE OFTEN	1 NEARLY ALL OF THE TIME
9. Pace yourself at work or at play to avoid getting over tired?	1 RARELY OR NEVER	2 SOME OF THE TIME	3 QUITE OFTEN	4 NEARLY ALL OF THE TIME
10. Make time for activities which normally relax you (such as watching TV, pleasure reading, regular social activities)?	1 RARELY OR NEVER	2 SOME OF THE TIME	3 QUITE OFTEN	4 NEARLY ALL OF THE TIME
11. Take time to practice relaxation skills daily?	1 RARELY OR NEVER	2 SOME OF THE TIME	3 QUITE OFTEN	4 NEARLY ALL OF THE TIME

- |   |                         |                             |                     |                                   |
|---|-------------------------|-----------------------------|---------------------|-----------------------------------|
| 12. Use relaxation techniques during times of stress?   | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |
| 13. Take time (15 to 30 minutes) a day to exercise within a suitable program of activity?   | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |
| 14. Pay attention to reducing negative self talk everyday?  | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |
| 15. Spend part of your leisure time in activities that involve <u>some form of a physical work out</u> (e.g., golf, swimming, horseback riding, gardening, walking, housework)? | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |
| 16. Use a variety of approaches to reduce depression?   | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |
| 17. Make arrangements to have someone else drive a car when you are feeling <u>very</u> sick or weak?   | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |
| 18. Pay attention to increasing positive self talk everyday?  | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |



- |  | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |
|--|-------------------------|-----------------------------|---------------------|-----------------------------------|
| 24. Take precautions while in contact with someone who is ill (e.g., avoid being coughed or sneezed on or being confined in a small enclosed space for a length of time, e.g., car, waiting room, etc.)? |                         |                             |                     |                                   |
| 25. Practice suggested oral hygiene care for gums (e.g., use of soft toothbrush, non-irritating mouthwash, avoiding hot spicy foods)?  |                         |                             |                     |                                   |
| ( 26. Practice suggested skin care to prevent skin breaks or infection?  |                         |                             |                     |                                   |
| 27. Consistently follow directions for skin care of treatment site (e.g., care of skin redness/heat, peeling from radiation, chemo related irritation at IV site)?                                       |                         |                             |                     |                                   |

- |   |                         |                             |                     |                                   |
|---|-------------------------|-----------------------------|---------------------|-----------------------------------|
| 19. Drive a vehicle or operate electrical appliances while being preoccupied with other thoughts?   | 4<br>RARELY<br>OR NEVER | 3<br>SOME<br>OF THE<br>TIME | 2<br>QUITE<br>OFTEN | 1<br>NEARLY<br>ALL OF<br>THE TIME |
| 20. Carefully look where you are going or what you are doing (e.g., being careful not to bump into things or touch hot surfaces)?   | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |
| 21. Talk with your health care provider about things that happen to you during or after treatment (e.g. pain along arm during chemo IV, sore, hot, peeling skin after radiation)? | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |
| 22. Protect yourself from heat or desert sun?   | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |
| 23. Ask for help <u>when you need it</u> to do things you have usually done for yourself?   | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |

- |   |                         |                             |                     |                                   |
|---|-------------------------|-----------------------------|---------------------|-----------------------------------|
| 28. Take a break during prolonged periods of work (e.g., taking short rests when driving or working)? | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |
| 29. Drink more than two caffeinated beverages (e.g., coffee, cola) in one day?                        | 4<br>RARELY<br>OR NEVER | 3<br>SOME<br>OF THE<br>TIME | 2<br>QUITE<br>OFTEN | 1<br>NEARLY<br>ALL OF<br>THE TIME |
| 30. Spend a part of each day using a suggested relaxation method?                                     | 1<br>RARELY<br>OR NEVER | 2<br>SOME<br>OF THE<br>TIME | 3<br>QUITE<br>OFTEN | 4<br>NEARLY<br>ALL OF<br>THE TIME |

APPENDIX G

INVENTORY OF ADULT SELF-CARE SCALE

DATE \_\_\_\_\_

ID # \_\_\_\_\_

T \_\_\_\_\_

## IARB

Read the following statements and place a mark at the point on the line that best fits you today.

1. Because of my illness I go out to social events as  
 Little as \_\_\_\_\_ Much as  
 possible \_\_\_\_\_ possible
2. Because of my illness I am doing shopping and errands as  
 Much as \_\_\_\_\_ Little as  
 possible \_\_\_\_\_ possible
3. I am able to participate in my usual social activities  
 at the \_\_\_\_\_  
 Lowest \_\_\_\_\_ Highest  
 level \_\_\_\_\_ level  
 possible \_\_\_\_\_ possible
4. I am doing my usual community activities at the  
 Highest \_\_\_\_\_ Lowest  
 possible \_\_\_\_\_ possible  
 level \_\_\_\_\_ level
5. I am doing my usual recreational activities at the  
 Least \_\_\_\_\_ Highest  
 possible \_\_\_\_\_ possible  
 level \_\_\_\_\_ level
6. I stay home as  
 Little as \_\_\_\_\_ Much as  
 possible \_\_\_\_\_ possible
7. My illness has disrupted my friendships to the  
 Highest \_\_\_\_\_ Least  
 degree \_\_\_\_\_ degree  
 possible \_\_\_\_\_ possible
8. Because of my illness I isolate myself from the rest of  
 my family to the \_\_\_\_\_  
 Least \_\_\_\_\_ Highest  
 degree \_\_\_\_\_ degree  
 possible \_\_\_\_\_ possible

9. I act irritable toward family members (for example, snap at them, criticize them, pick fights) to the  
 Greatest extent possible \_\_\_\_\_ Least extent possible

10. My illness interferes with the regular daily work around the house I usually do (for example, yard work repairs, cooking, cleaning, etc) to the  
 Least degree possible \_\_\_\_\_ Highest degree possible

11. My illness interferes with the length of visits with my friends to the  
 Least extent possible \_\_\_\_\_ Greatest extent possible

12. My illness interferes with the things I usually do for fun to the  
 Greatest extent possible \_\_\_\_\_ Least extent possible

13. I have influence in my family appropriate to my place in the family (i.e., as husband, wife, son, daughter, etc) to the  
 Most extent possible \_\_\_\_\_ Least extent possible

14. I am involved in a variety of rewarding social activities to the  
 Least extent possible \_\_\_\_\_ Most extent possible

15. My leisure time is occupied with a variety of rewarding activities to the  
 Most extent possible \_\_\_\_\_ Least extent possible

16. My physical limitations on sexual activity effect me to the  
 Greatest extent possible \_\_\_\_\_ Least extent possible

17. The influence of my illness in causing me to be involved in only inactive recreational things (for example, TV, cards, reading) is

The least  
possible  
influence \_\_\_\_\_

The most  
possible  
influence

18. Because of my illness doing a different kind of less satisfying work was the

Most  
necessary  
thing  
to do \_\_\_\_\_

Least  
necessary  
thing  
to do

19. Absenteeism from work (or school or housework) because of my illness is at the

Least  
possible  
level \_\_\_\_\_

Greatest  
possible  
level

20. Doing my job as carefully and as accurately as I can continue to be at the

Lowest  
possible  
level \_\_\_\_\_

Highest  
possible  
level

21. Because of my illness, making the extra effort to excel at work (school) occurs to the

Least  
possible  
extent \_\_\_\_\_

Greatest  
possible  
extent

22. Because of my illness I act irritable toward my work (school) associates (for example, snap at them, give short answers, criticize easily) to the

Greatest  
possible  
extent \_\_\_\_\_

Least  
possible  
extent

23. My illness interferes with my work (school, housework, volunteer work) to the

Highest  
possible  
level \_\_\_\_\_

Lowest  
possible  
level

24. Every day, I do extra things to keep myself well.

Not true  
about me \_\_\_\_\_

True  
about me

25. My doctor provides my only source of help for staying well.

True		Not true
about me	_____	about me

26. I keep track of how well a treatment works for me.

Not true		True
about me	_____	about me

27. I ignore my health.

True		Not true
about me	_____	about me

28. I follow guidelines for good nutrition and exercise that are suitable for me.

Not true		True
about me	_____	about me

29. I do nothing to keep well.

True		Not true
about me	_____	about me

30. I make use of a number of resources besides my doctor to keep myself well (for example, books, classes, sharing with others)

Not true		True
about me	_____	about me

31. I don't pay attention to disease symptoms.

True		Not true
about me	_____	about me

32. I don't read about what to do to stay well.

Not true		True
about me	_____	about me

33. I take medication not prescribed by my doctor.

True		Not true
about me	_____	about me

34. I spend time on everything except trying to stay well

Not true		True
about me	_____	about me

35. I find ways in addition to what my doctor advises to keep myself in the best possible health.

True		Not true
about me	_____	about me



36. I seldom attempt to have good nutrition and enough exercise.

Not true

about me \_\_\_\_\_

True

about me

37. I pay attention to how my body feels.

True

about me \_\_\_\_\_

Not true

about me

38. I spend time keeping myself well.

Not true

about me \_\_\_\_\_

True

about me

39. I attempt to keep myself well.

Not true

about me \_\_\_\_\_

True

about me

40. I determine what my symptoms mean before I call a doctor.

Not true

about me \_\_\_\_\_

True

about me

41. I make my own adjustments in how much medication I take.

True

about me \_\_\_\_\_

Not true

about me

42. I keep up to date on ways to stay well.

Not true

about me \_\_\_\_\_

True

about me

### References

- American Cancer Society (1991). Cancer Facts and Figures-1992. Atlanta, GA: American Cancer Society.
- Boring, C.C., Squires, T.S., & Tong, T. (1991). Cancer Statistics, 1991. Ca - A Cancer Journal for Clinicians, 41(1), pp. 19-36.
- Braden, C.J. (1986). Self-help as a learned response to chronic illness experience: A test of four alternatives. Unpublished doctoral dissertation, University of Arizona, Tucson.
- \_\_\_\_\_. (1990). A test of the Self-Help Model: Learned response to chronic illness experience. Nursing Research, 39(1), pp. 42-47.
- \_\_\_\_\_. (1990). Learned self-help response to chronic illness experience: A test of three alternative learning theories. Scholarly Inquiry for Nursing Practice: An International Journal, 4(1), pp. 23-41.
- \_\_\_\_\_. (1991). Specification of mediator variables in the self-help model: Depression, enabling skills and self-efficacy. Conference Abstracts. 1991 International Nursing Research Conference. Nursing Research: Global Health Perspectives. October 22-25, 1991. LA, California.
- Braden, C.J., Mishel, M., Longman, A., & Burns, L. (1990). A self-help intervention project (SHIP) in breast cancer treatment. Innovations in Oncology Nursing, 6(2), pp. 1, 8, 19.
- Burns, N., & Grove, S. (1987). The Practice of Nursing Research: Conduct, Critique, Utilization. Philadelphia, PA: W.B. Saunders.
- Christman, N.J. (1990). Uncertainty and adjustment during radiotherapy. Nursing Research, 39(1), pp. 17-20, 47.
- Clark, J. (1990). Psychosocial dimensions: The patient. In S.L. Groenwald, M.H. Frogge, M. Goodman, & C.H. Yarbro (Eds.), Cancer Nursing: Principles and Practice (2nd Ed.) (pp. 346-364). Boston. MA: Jones & Barlett.
- David, A.J., Roul, R.K., & Kuruvilla, J. (1988). Lessons of self-help for Indian women with breast cancer. Cancer Nursing, 11(5), pp. 283-287.

- Dodd, M.J. (1982). Assessing patient self-care for side effects of cancer chemotherapy - Part I. Cancer Nursing, 5(6), pp. 447-451.
- \_\_\_\_\_ (1983). Self-care for side effects in cancer chemotherapy: An assessment of nursing intervention - Part II. Cancer Nursing, 6(1), pp. 63-67.
- \_\_\_\_\_ (1984). Measuring informational intervention for chemotherapy knowledge and self-care behavior. Research in Nursing and Health, 7(1), pp. 43-50.
- \_\_\_\_\_ (1987). Efficacy of proactive information on self-care in radiation therapy patients. Heart & Lung, 16(5), pp. 538-544.
- \_\_\_\_\_ (1988). Patterns of self-care in patients with breast cancer. Western Journal of Nursing Research, 10(1), pp. 7-20.
- Dodd, M.J., & Mood, D.W. (1981). Chemotherapy: Helping patients to know the drugs they are receiving and their possible side effects. Cancer Nursing, 4(4), pp. 311-318.
- Dow, K.H. (1991). Newer developments in the diagnosis staging of breast cancer. Seminars in Oncology Nursing, 7(3), pp. 166-174.
- Derdiarian, A. (1987). Information needs of recently diagnosed cancer patients: A theoretical framework, Part one. Cancer Nursing, 10(2), pp. 107-115.
- Fallowfield, L.J. (1990). Psychosocial adjustment after treatment for early breast cancer. Oncology, 4(100), pp. 89-97.
- Fernsler, J. (1986). A comparison of patient and nurse perceptions of patients' self-care deficits associated with cancer chemotherapy. Cancer Nursing, 9(2), pp. 50-57.
- Frank-Stromborg, M., Wright, P., Segalla, M., & Diekman, J. (1984). Psychological impact of the cancer diagnosis. Oncology Nursing Forum, 11(3), pp. 16-22.
- Goodman, M., & Harte, N. (1990). Breast cancer. In S.L. Groenwald, M.H. Frogge, M. Goodman, & C. H. Yarbrow (Eds.), Cancer Nursing: Principles and Practice (2nd Ed.) (pp.

- 722-750). Boston, MA: Jones and Barlett.
- Gortner, S., Leavitt, M., Rankin, S., Price, M., Gilliss, C., & Shinn, J. (1985). After Cardiac Surgery: Monitoring Recovery by Telephone, Unpublished paper presented American Heart Association, November 12, 1985.
- Hilton, B.A. (1988). The phenomenon of uncertainty in women with breast cancer. Issues in Mental Health Nursing, 9(3), pp. 217-238.
- Holmes, S. (1989). Use of a modified symptom distress scale in assessment of the cancer patient. International Journal of Nursing Studies, 26(1), pp. 69-79.
- Jennings, B.M., & Muhlenkamp, A.F. (1981). Systematic misconception: Oncology patients' self-reported affective states and their care-givers' perceptions. Cancer Nursing, 4(6), pp. 485-489.
- Kalinowski, B.H. (1991). Local therapy for breast cancer: Treatment choices and decision making. Seminar in Oncology Nursing, 7(3), pp. 187-193.
- Kelsey, J.L., & Gammon, M.D. (1991). The epidemiology of breast cancer. Ca- A Cancer Journal for Clinicians, 41(3), pp. 146-165.
- King, K., Nail, L., Kreamer, K., Strohl, R., & Johnson, J. (1985). Patients' description of the experience of receiving radiation therapy. Oncology Nursing Forum, 12(4), pp. 55-61.
- Knobf, M.T. (1986). Physical and psychologic distress associated with adjuvant chemotherapy in women with breast cancer. Journal of Clinical Oncology, 4(5), pp. 678-684.
- Kriss, R. (1981). Self image and sexuality after mastectomy. In D.G. Bullard, & S.E. Knight (Eds.), Sexuality and physical disability: Personal Perspectives (pp. 185-192). St Louis, IL: C.V. Mosby.
- Kubricht, D. (1984). Therapeutic self care demands expressed by outpatients receiving external radiation therapy. Cancer Nursing, 7(1), pp. 43-52.
- Levy, M. (1986). Breast cancer treatment alternatives: The patient decision making process. Health Values, 10(1), pp. 16-21.

- Lewinsohn, P.M., & Alexander, C. (1990). Learned resourcefulness and depression. In M. Rosenbaum (Ed.), Learned Resourcefulness (On Coping Skills, Self-Control, and Adaptive Behavior) (pp. 202-228). New York, NY: Springer Publishing Company Inc.
- Lorig, K., Lubeck, D., Kraines, R.G., Seleznick, M., & Holman, H.R. (1985). Outcomes of self-help education for patients with arthritis. Arthritis and Rheumatism, 28(6), pp. 680-685.
- Lorig, K., Seleznick, M., Lubeck, D., Ung, E., Chastain, R.L., & Holman, H. (1989). The beneficial outcomes of the arthritis self-management course are not adequately explained by behavior change. Arthritis and Rheumatism, 32(1), pp. 91-95.
- Loveys, B.J., & Klaich, K. (1991). Breast cancer: Demands of illness. Oncology Nursing Forum, 18(1), pp. 75-80.
- McCorkle, R., & Quint-Benoliel, J. (1983). Symptom distress, current concerns and mood disturbance after diagnosis of life-threatening disease. Social Science Medicine, 17(1), pp. 431-438.
- McCorkle, R., & Young, K. (1978). Development of a symptom distress scale. Cancer Nursing, 1(5), pp. 373-378.
- Miller, J.F. (1983). Coping with chronic illness: Overcoming powerlessness. Philadelphia, PA: F.A. Davis.
- Mishel, M.H., & Braden, C.J. (1987). Uncertainty - A mediator between support and adjustment. Western Journal of Nursing Research, 9(1), pp. 43-57.
- \_\_\_\_\_ (1988). Finding meanings: Antecedents of uncertainty in illness. Nursing Research, 37(2), pp. 98-103, 127.
- Mishel, M.H., & Sorenson, D.S. (1991). Uncertainty in gynecological cancer. A test of the mediating functions of mastery and coping. Nursing Research, 40(3), pp. 167-171.
- Morris, T., Greer, S., & White, P. (1977). Psychological and social adjustment to mastectomy. Cancer, 40(5), pp. 2381-2387.

- Munro, B., Visintainer, M., & Page, E. (1986). Statistical Methods for Health Care Research. Philadelphia, PA: J.B. Lippincott Company.
- Nielsen, B.B. (1991). Breast cancer screening. Seminars in Oncology Nursing, 7(3), pp. 161-165.
- Norcross-Weintraub, F, & Hagopian, G.A. (1990). The effect of nursing consultation on anxiety, side effects, and self-care of patients receiving radiation therapy. Oncology Nursing Forum, 17(3), pp. 31-36.
- Orem, D. (1985). Nursing: Concepts of Practice (3rd Ed.). New York, NY: McGraw-Hill.
- Pardine, P., Dytell, R., Napoli, A., Friedman, A., & Spencer, S. (1982). The direct and indirect effects of stress on illness. Paper presented at the Annual Convention of the American Psychological Association, Washington, DC.
- Rosenbaum, M. (1980). A schedule for assessing self-control behavior: Preliminary findings. Behavior Therapy, 11, pp. 109-121.
- \_\_\_\_\_ (1983). Learned resourcefulness as a behavioral repertoire for the self-regulation of internal events: Issues and speculations. In M. Rosenbaum, C.M. Franks, & Y. Jaffe (Eds.), Perspectives on Behavior Therapy in the Eighties (pp. 54-73). New York, NY: Springer Publishing Company.
- \_\_\_\_\_ (1990). The role of learned resourcefulness in the self-control of health behavior. In M. Rosenbaum (Ed.), Learned Resourcefulness on Coping Skills, Self Control, and Adaptive Behavior, (pp. 3-30). New York, NY: Springer Publishing Company.
- Rosenbaum, M, & Ben-Ari, K. (1985). Learned helplessness and learned resourcefulness: Effects of noncontingent success and failure on individuals differing in self-control skills. Journal of Personality and Social Psychology, 48(1), pp. 198-215.
- Rosenbaum, M., & Smira, K.B. (1986). Cognitive and personality factors in the delay of gratification of hemodialysis patients. Journal of Personality and Social Psychology, 51(2), pp. 357-364.

- Scanlon, E.F. (1991). Breast cancer. In A.I. Holleb, D.J. Fink, & G.P. Murphy (Eds.), American Cancer Society Textbook of Clinical Oncology (pp. 117-193). Atlanta, GA: The American Cancer Society Inc.
- Seligman, M.E.P. (1975). Helplessness: On depression, development, & death. San Francisco, CA: W.H. Freeman.
- Simmons, C.C. (1984). The relationship between life change losses and stress levels for females with breast cancer. Oncology Nursing Forum, 11(2), pp. 37-41.
- Thomas, S.G. (1978). Breast cancer: The psychological issues. Cancer Nursing, 1(1), pp. 53-60.
- Vinokur, A., Threatt, B., Caplan, R., & Zimmerman, B. (1989). Physical and psychological functioning and adjustment to breast cancer. Cancer, 63(2), pp. 394-405.
- Vinokur, A., Threatt, B., Vinokur-Kaplan, D., & Satariano, W. (1990). The process of recovery from breast cancer for younger and older patients. Cancer, 65(5), pp. 1242-1254.
- Vogel, C.L. (1991). Treatment of metastasis breast cancer. Seminars in Oncology Nursing, 7(3), pp. 194-199.

## Bibliography

- Braden, C.J. (1986). Self-help as a learned response to chronic illness experience: A test of four alternatives. Unpublished doctoral dissertation, University of Arizona, Tucson.
- \_\_\_\_\_. (1990). A test of the Self-Help Model: Learned response to chronic illness experience. Nursing Research, 39(1), pp. 42-47.
- \_\_\_\_\_. (1990). Learned self-help response to chronic illness experience: A test of three alternative learning theories. Scholarly Inquiry for Nursing Practice: An International Journal, 4(1), pp. 23-41.
- \_\_\_\_\_. (1991). Specification of mediator variables in the self-help model: Depression, enabling skills and self-efficacy. Conference Abstracts. 1991 International Nursing Research Conference. Nursing Research: Global Health Perspectives. October 22-25, 1991. LA, California.
- Braden, C.J., Mishel, M., Longman, A., & Burns, L. (1990). A self-help intervention project (SHIP) in breast cancer treatment. Innovations in Oncology Nursing, 6(2), pp. 1, 8, 19.
- Dodd, M.J. (1982). Assessing patient self-care for side effects of cancer chemotherapy - Part I. Cancer Nursing, 5(6), pp. 447-451.
- \_\_\_\_\_. (1983). Self-care for side effects in cancer chemotherapy: An assessment of nursing intervention - Part II. Cancer Nursing, 6(1), pp. 63-67.
- \_\_\_\_\_. (1984). Measuring informational intervention for chemotherapy knowledge and self-care behavior. Research in Nursing and Health, 7(1), pp. 43-50.
- \_\_\_\_\_. (1987). Efficacy of proactive information on self-care in radiation therapy patients. Heart & Lung, 16(5), pp. 538-544.
- \_\_\_\_\_. (1988). Patterns of self-care in patients with breast cancer. Western Journal of Nursing Research, 10(1), pp. 7-20.
- Dodd, M.J., & Mood, D.W. (1981). Chemotherapy: Helping patients to know the drugs they are receiving and their



- possible side effects. Cancer Nursing, 4(4), pp. 311-318.
- Lewinsohn, P.M., & Alexander, C. (1990). Learned resourcefulness and depression. In M. Rosenbaum (Ed.), Learned Resourcefulness (On Coping Skills, Self-Control, and Adaptive Behavior) (pp. 202-228). New York, NY: Springer Publishing Company Inc.
- McCorkle, R., & Quint-Benoliel, J. (1983). Symptom distress, current concerns and mood disturbance after diagnosis of life-threatening disease. Social Science Medicine, 17(1), pp. 431-438.
- McCorkle, R., & Young, K. (1978). Development of a symptom distress scale. Cancer Nursing, 1(5), pp. 373-378.
- Mishel, M.H., & Braden, C.J. (1987). Uncertainty - A mediator between support and adjustment. Western Journal of Nursing Research, 9(1), pp. 43-57.
- \_\_\_\_\_ (1988). Finding meanings: Antecedents of uncertainty in illness. Nursing Research, 37(2), pp. 98-103, 127.
- Mishel, M.H., & Sorenson, D.S. (1991). Uncertainty in gynecological cancer. A test of the mediating functions of mastery and coping. Nursing Research, 40(3), pp. 167-171.
- Orem, D. (1985). Nursing: Concepts of Practice (3rd Ed.). New York, NY: McGraw-Hill.
- Rosenbaum, M. (1980). A schedule for assessing self-control behavior: Preliminary findings. Behavior Therapy, 11, pp. 109-121.
- \_\_\_\_\_ (1983). Learned resourcefulness as a behavioral repertoire for the self-regulation of internal events: Issues and speculations. In M. Rosenbaum, C.M. Franks, & Y. Jaffe (Eds.), Perspectives on Behavior Therapy in the Eighties (pp. 54-73). New York, NY: Springer Publishing Company.
- \_\_\_\_\_ (1990). The role of learned resourcefulness in the self-control of health behavior. In M. Rosenbaum (Ed.), Learned Resourcefulness on Coping Skills, Self Control, and Adaptive Behavior, (pp. 3-30). New York, NY: Springer Publishing Company.
- Rosenbaum, M, & Ben-Ari, K. (1985). Learned helplessness

and learned resourcefulness: Effects of noncontingent success and failure on individuals differing in self-control skills. Journal of Personality and Social Psychology, 48(1), pp. 198-215.

Rosenbaum, M., & Smira, K.B. (1986). Cognitive and personality factors in the delay of gratification of hemodialysis patients. Journal of Personality and Social Psychology, 51(2), pp. 357-364.

Seligman, M.E.P. (1975). Helplessness: On depression, development, & death. San Francisco, CA: W.H. Freeman.

SELF-CARE IN WOMEN WITH BREAST CANCER  
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**ABSTRACT**

A secondary data analysis of the Self-Help Intervention Project pilot study was conducted to determine the relationships among Enabling Skills, Nursing Interventions, Symptom distress, and Self-Care in 23 women with breast cancer. This study was based upon Drem's (1985) Framework of Self-Care.

Results indicated Enabling Skills as positively related to Symptom Distress ( $r=.55$ ,  $p=.007$ ) and Self-Care ( $r=.55$ ,  $p=.007$ ). Self-Care was positively related to pattern of Symptom Distress ( $r=.36$ ,  $p=.099$ ), and negatively related to numbers of Symptom Distress ( $r=-.55$ ,  $p=.007$ ). Self-Help Class intervention was positively related to Symptom Distress ( $r=.44$ ,  $p=.037$ ).

Results of the study demonstrated women with breast cancer can benefit from nursing interventions that increase their self-control, or reduce the distress from cancer treatment's side effects. Findings emphasize the need for nurses to become more active in promoting patients' Enabling Skills and consequent increase of patients' Self-Care level.

## Bibliography

Braden, C.J. (1986). Self-help as a learned response to chronic illness experience: A test of four alternatives. Unpublished doctoral dissertation, University of Arizona, Tucson.

\_\_\_\_\_. (1990). A test of the Self-Help Model: Learned response to chronic illness experience. Nursing Research, 39(1), pp. 42-47.

\_\_\_\_\_. (1990). Learned self-help response to chronic illness experience: A test of three alternative learning theories. Scholarly Inquiry for Nursing Practice: An International Journal, 4(1), pp. 23-41.

\_\_\_\_\_. (1991). Specification of mediator variables in the self-help model: Depression, enabling skills and self-efficacy. Conference Abstracts. 1991 International Nursing Research Conference. Nursing Research: Global Health Perspectives. October 22-25, 1991. LA, California.

Braden, C.J., Mishel, M., Longman, A., & Burns, L. (1990). A self-help intervention project (SHIP) in breast cancer treatment. Innovations in Oncology Nursing, 6(2), pp. 1, 8, 19.

Dodd, M.J. (1982). Assessing patient self-care for side effects of cancer chemotherapy - Part I. Cancer Nursing, 5(6), pp. 447-451.

\_\_\_\_\_. (1983). Self-care for side effects in cancer chemotherapy: An assessment of nursing intervention - Part II. Cancer Nursing, 6(1), pp. 63-67.

\_\_\_\_\_. (1984). Measuring informational intervention for chemotherapy knowledge and self-care behavior. Research in Nursing and Health, 7(1), pp. 43-50.

\_\_\_\_\_. (1987). Efficacy of proactive information on self-care in radiation therapy patients. Heart & Lung, 16(5), pp. 538-544.

\_\_\_\_\_. (1988). Patterns of self-care in patients with breast cancer. Western Journal of Nursing Research, 10(1), pp. 7-20.

Dodd, M.J., & Mood, D.W. (1981). Chemotherapy: Helping patients to know the drugs they are receiving and their

possible side effects. Cancer Nursing, 4(4), pp. 311-318.

Lewinsohn, P.M., & Alexander, C. (1990). Learned resourcefulness and depression. In M. Rosenbaum (Ed.), Learned Resourcefulness (On Coping Skills, Self-Control, and Adaptive Behavior) (pp. 202-228). New York, NY: Springer Publishing Company Inc.

McCorkle, R., & Quint-Benoliel, J. (1983). Symptom distress, current concerns and mood disturbance after diagnosis of life-threatening disease. Social Science Medicine, 17(1), pp. 431-438.

McCorkle, R., & Young, K. (1978). Development of a symptom distress scale. Cancer Nursing, 1(5), pp. 373-378.

Mishel, M.H., & Braden, C.J. (1987). Uncertainty - A mediator between support and adjustment. Western Journal of Nursing Research, 9(1), pp. 43-57.

\_\_\_\_\_ (1988). Finding meanings: Antecedents of uncertainty in illness. Nursing Research, 37(2), pp. 98-103, 127.

Mishel, M.H., & Sorenson, D.S. (1991). Uncertainty in gynecological cancer. A test of the mediating functions of mastery and coping. Nursing Research, 40(3), pp. 167-171.

Orem, D. (1985). Nursing: Concepts of Practice (3rd Ed.). New York, NY: McGraw-Hill.

Rosenbaum, M. (1980). A schedule for assessing self-control behavior: Preliminary findings. Behavior Therapy, 11, pp. 109-121.

\_\_\_\_\_ (1983). Learned resourcefulness as a behavioral repertoire for the self-regulation of internal events: Issues and speculations. In M. Rosenbaum, C.M. Franks, & Y. Jaffe (Eds.), Perspectives on Behavior Therapy in the Eighties (pp. 54-73). New York, NY: Springer Publishing Company.

\_\_\_\_\_ (1990). The role of learned resourcefulness in the self-control of health behavior. In M. Rosenbaum (Ed.), Learned Resourcefulness on Coping Skills, Self Control, and Adaptive Behavior, (pp. 3-30). New York, NY: Springer Publishing Company.

Rosenbaum, M, & Ben-Ari, K. (1985). Learned helplessness

and learned resourcefulness: Effects of noncontingent success and failure on individuals differing in self-control skills. Journal of Personality and Social Psychology, 48(1), pp. 198-215.

Rosenbaum, M., & Smira, K.B. (1986). Cognitive and personality factors in the delay of gratification of hemodialysis patients. Journal of Personality and Social Psychology, 51(2), pp. 357-364.

Seligman, M.E.P. (1975). Helplessness: On depression, development, & death. San Francisco, CA: W.H. Freeman.